



FALL 2009

ION Saint Louis



*2009 Saint Louis
section Chair, Tyria
Riley.*

New Section Chair, Riley Announces Plans for 2009

I'm ecstatic to be serving as your 2009 St. Louis Section Chair. I am excited about continuing the great things we have done thus far as well as incorporating some new operations into ensuring our success. Just a little bit about myself, I became a member of IEEE in 2005 and started my leadership service in 2006 as the St. Louis Section secretary. I graduated from SIU-Edwardsville in 2002 with a B.S. in Electrical Engineering, Missouri Science & Technology (MS&T) with a M.S. in Systems Engineering, and currently attending MS&T pursuing a Doctor of Philosophy in Engineering Management. I am active in several organizations including the National Alumni Executive Board of the National Society of Black Engineers, Delta Sigma Theta Sorority, Inc, Big Brothers/Big Sisters, Women in Aviation International, and many others. I have worked for The Boeing Company for the past 5 years and am currently an Electrical Design & Integration Engineer for the A-10 Wing Replacement Program.

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This year I plan to incorporate some new operations. Some of the things that I would like to work towards are ensuring that the student sections are supported by the section in their programmatic efforts, increasing the involvement of the membership, strengthening the societies within our section, and incorporating some community outreach. Again, I look forward to working with everyone this year and should you have any questions, comments, or concerns please do not hesitate to contact me.

Welcome, 2009 Section Executive Committee

January 1 will bring in a new Executive Committee for the Section. This group of people are responsible for the administrative, programmatic and governance of the Section. Each plays a pivotal role and will have committed to serving four consecutive years after their respective completion of serving as Chair. These individuals serve a 1 year term in the positions listed below. Contact information is available on the Section website at <http://ewh.ieee.org/r5/stlouis>.

Chair – Tyria Riley

Past Chair – Dr. H. S. Mallikarjuna

Vice Chair – Dr. Keith Corzine

Treasurer – Bob Becnel

Secretary – Jessica du Maine

Outgoing Chair's Column

The *ION Saint Louis* is the official publication of the Saint Louis Section of IEEE. It is published approximately once per quarter by the Officers of the Section and distributed electronically via the Section Listserv and posted to the Section website.

Any member may submit IEEE-related information to appear in the publication to Bob Becnel at bob@becnel.com.

**Hello fellow professionals* - This will be my last message as the Chair of the IEEE St. Louis Section. I was glad to serve the community and the successful accomplishments during the year were not possible without the help of several people. Not particularly in any order, I would like to thank Mr. Bob Becnel for updating and keeping the section website current and producing the newsletters, Ms. Heidi Anderson for serving in the Awards Committee, arranging the summer social and also actively participating in section activities including senior member drive, the folks at the Rolla student section, Dr. Roobik Gharabagi for hosting the meetings and Black Box Competition at Saint Louis University, and many others.

I am happy to pass the baton to the able hands of Ms. Tyria Riley who will be leading the section activities next year. I would also like to thank Ms. Jessica DuMaine for agreeing to serve as secretary of the section for the coming year. The single challenge facing the section continues to be keeping the section chapters active and I hope the incoming section officers will be more successful in this endeavor.

Again I would like to thank every one who made the contributions to the section this year and hope will continue to so in the coming years. I wish all the section members and their families a Happy New Year.

Dr. H. S. Mallik,

2008 Chair, IEEE St. Louis Section



2008 Section Chair, Dr. H. S. Mallikarjuna

Thank you, Dr. Mallik

I'd like to take this opportunity to personally thank outgoing Chair, Dr. Mallik on behalf of the entire IEEE Saint Louis Section. Mallik put in countless hours and an untold amount of energy in order to maintain the operations and professionalism of the Section and the IEEE organization.

One could always find Mallik at the Section events and he even found time to present awards at the SWARM Symposium this past Fall. The St. Louis University campus played a pivotal role in Section events in 2008 including our monthly planning meetings, Computer Society Chapter meetings, the Senior Member drive and the Black Box Competition and it was Mallik who made that available. Most of all, Mallik always has the best interest of the Students of the Section and deep respect for mentoring fellow IEEE members, young and old.

Personally, I have enjoyed working with Mallik this past year and learned a lot. Over the busy Holiday period, please take a few minutes to drop an e-mail of gratitude for Mallik at mallikhs@slu.edu and tell him thanks for his time and support for the Section over the past year. Thank you, Dr. Mallik.

Respectfully, Bob Becnel, 2008 Secretary

Christmas Social and Awards Dinner Recap



Christmas Social, Chair, Bob Menzel (standing) hands out gifts to the children.

This past December 20 was the annual Christmas Social and Awards presentation at the Lake St. Louis Country Club. The weather outside was cold, but the snow stayed away, allowing a good turnout. The evening began with a Happy Hour, then led in with a delicious buffet dinner, with award presentation and gifts for the children.

Once again, Mr and Mrs. Bob Menzel made the evening possible by arranging for the Clubhouse, caterers, drinks and gifts.

Ms. Heidi Anderson, Awards Chair, made the presentation of the 2008 Section Awards. The presentations made included the following winners.



Colleague, Dr. Wunsch, P.E. (right) of MST receives the Outstanding Educator award on behalf of Dr. Venayagamoorthy.

Outstanding Educator

Ganesh Kumar Venayagamoorthy

Associate Professor of Electrical and Computer Engineering

Missouri University of Science and Technology

Outstanding Branch Counselor

Joseph A. O'Sullivan, Ph.D.

Samuel C. Sachs Professor of Electrical Engineering

Washington University



Outstanding Section Member Award Winner, Mr. Bob Lyons, P.E (right) and Awards Chair, Heidi Anderson (center).

Outstanding Section Member

Bob Lyons, P.E.

Electrical Engineer

Burns & McDonnell, Inc.

Outstanding Student Branch

Saint Louis University IEEE Student Branch

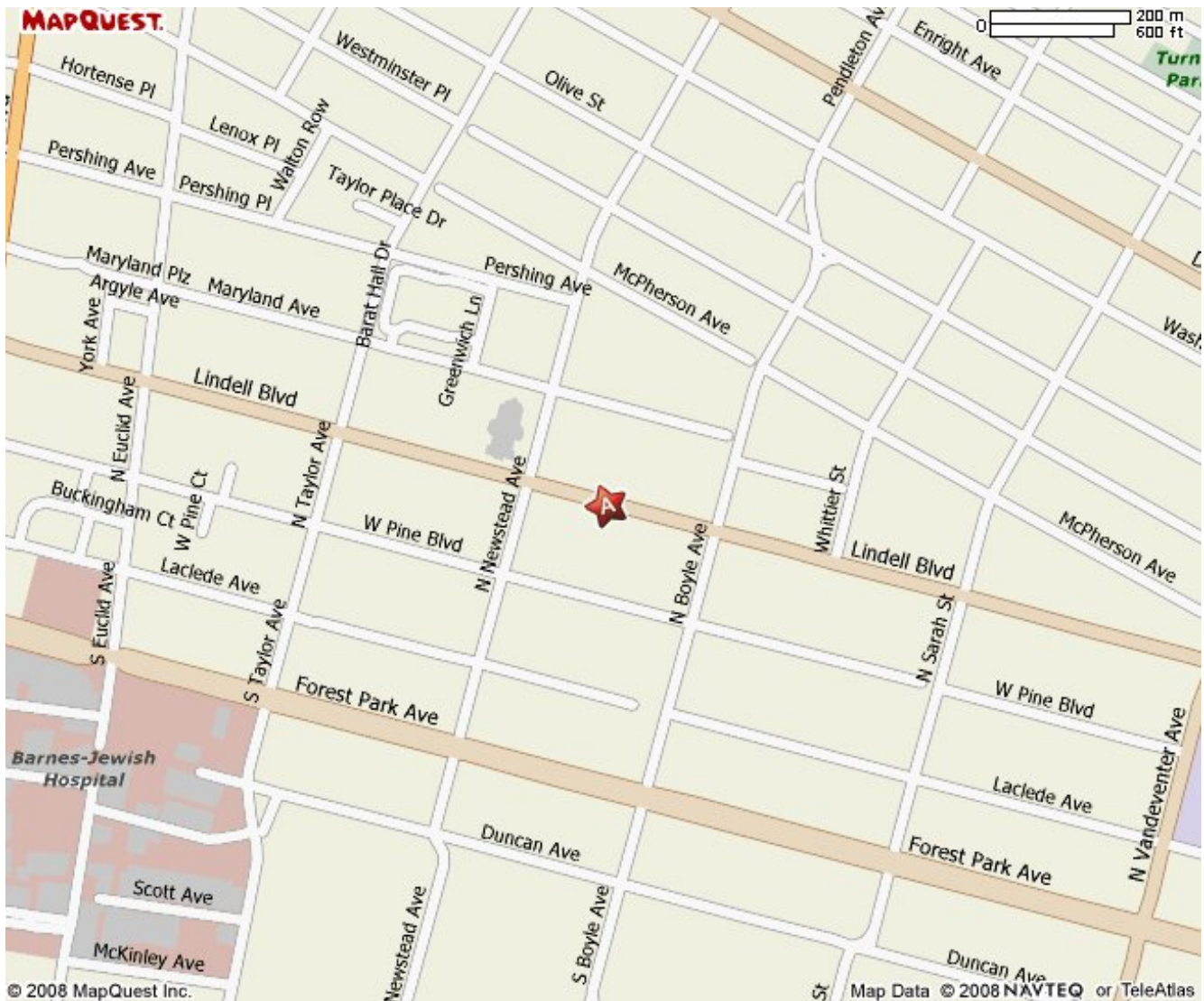
Lastly, due to the bad weather up North, Santa Claus was unable to be at the Clubhouse in person, but he did stop by earlier in the day to make sure all of the Children had a gift to leave home with.

Section Planning Meeting New Location

2009 Section Chair, Tyria Riley (*see story on page 1*) has announced that Section Planning Meetings will resume on the 4th Thursday of each month starting with January 22. Meetings this year will be held at the Engineers' Club of St. Louis (<http://www.engineersclub.net>) 4359 Lindell Blvd. The Section is an affiliate member of the Club. A map to the Engineers Club is shown below.



THE ENGINEERS' CLUB OF ST. LOUIS



Professional Engineering Refresher Course

Professional Engineer Refresher Courses

These review courses are geared toward helping participants pass the Professional Engineer (P.E.) license exam. Classes will be held in the following fields of engineering:

- Civil
- Mechanical
- Electrical

Course fee includes a three-ring binder, lecture notes, certificates of completion, and CEUs.

Participants should purchase course reference materials before the first class from www.mspe.org.

2009 Spring Schedule

Classes are scheduled to meet the following seven Saturday mornings from 8 a.m.-noon:

Feb. 21
Feb. 28
March 7
March 14
March 21
March 28
April 4

Report to Room 216 of the Humanities Building (HUM) on the campus of St. Charles Community College. Park in the Yellow Lot.

DEADLINE: Feb. 13, 2009

Register by mail, fax, or phone
(See back side of this panel for details.)

Course content inquiries should be directed to

Louis Becker, P.E.

(314) 554-2242 or
lbecker@ameren.com

Registration Fee

MSPE, ASCE, and SAME Members
..... \$450
Non-Members..... \$550
Proceeds of the course go toward
the MSPE Scholarship Fund.



ST. CHARLES COMMUNITY COLLEGE

www.stchas.edu

Deadline for Registration: Friday, Feb. 13, 2009

Name: _____

MSPE/ASCE/SAME Member No.: _____

Address: _____

Soc. Security No.: _____

City, State, Zip: _____

Home Phone No.: _____

E-Mail: _____

- ☐ Civil Engineering Refresher Course
☐ Mechanical Engineering Refresher Course
☐ Electrical Engineering Refresher Course

☐ MSPE ☐ ASCE ☐ SAME Member Rate – \$450

☐ Non-Member Rate – \$550

Payment Method: ☐ Check Payable to SCC

☐ Discover ☐ Visa ☐ M/C Card No: _____

Exp. Date: _____ Signature: _____

Black Box Competition Winners

The Black Box Competition was held on November 15 at St. Louis University. SLU hosted the event this year as a result of winning the competition last year. Dr. Kyle Mitchell, supervised the event with fellow Section Members providing their time as contest judges.

The event ran for several hours and had 6 teams representing St. Louis University, Southern Illinois University at Edwardsville and Missouri University of Science and Technology. Besides judges, the Section provided pizza, sandwiches and drinks for all of the contestants as well as prizes. A list of the competition rules has been included in the newsletter on page 10. Photos of the winners are below. *Photos are courtesy of Dr. Mitchell.*

First Place – Missouri School of Technology & Science

Colin Gibson

Amanda Hamdorf



Second Place – St. Louis University

Edin Rakovic

Adam Baltz



Third Place – Missouri School of Technology & Science

Timothy Clemon

Lawrence Crosier



Fourth Place – Southern Illinois Univ - Edwardsville

Justin Harms

Allyson Stovy



Dr. Kyle Mitchell, Black Box Chair for 2008 and St. Louis Professor.



All Black Box 2008 participants.



Dr. Gharabagi, Black Box judge and St. Louis University Professor had as much fun as the students.

Saint Louis Section History

The Saint Louis Section has many different chapters, student chapters, and affinity groups subordinate to the overall Section organization. However, did you ever wonder when these groups began and how long have they been active? Well, upon a recent request from the IEEE HQ, the ION staff asked for such a query of the IEEE records. The following table might prove of anecdotal interest at the next Social.

Organization	Type	Date
Saint Louis Section	Section	January 14, 1903
AESS Chapter	Chapter	January 14, 1994
CS Chapter	Chapter	March 18, 1967
CIS Chapter (Columbia)	Chapter	July 25, 2006
COMSOC Chapter	Chapter	October 7, 1969
EMBS Chapter	Chapter	December 27, 1999
IAS Chapter	Chapter	May 25, 1965
PES Chapter	Chapter	August 26, 1964
CIS Chapter	Chapter	May 7, 2004
ES Chapter	Chapter	May 9, 2005
GOLD	Affinity	March 30, 2000
WIE	Affinity	March 10, 2005
University of MO - Columbia	Student Branch	April 6, 1949
Missouri School of Science & Technology	Student Branch	June 18, 1964
St. Louis University	Student Branch	September 23, 1986
Southern Illinois University - Edwardsville	Student Branch	June 20, 1973
Southern Illinois University - Carbondale	Student Branch	August 29, 1978
Washington University	Student Branch	February 3, 1954
Missouri School of Science & Technology (AESS Chapter)	Student Branch Chapter	June 1, 1998
Missouri School of Science & Technology (PES Chapter)	Student Branch Chapter	August 8, 1995

Book Review

Clustering

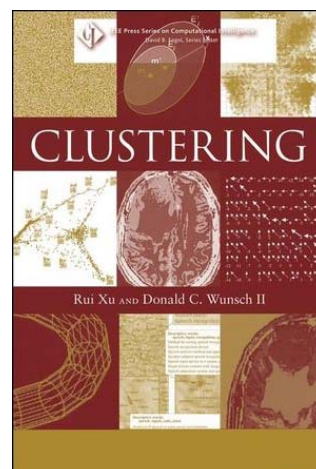
By Rui Xu, Don Wunsch

ISBN: 978-0-470-27680-8, Hardcover, 358 pages, October 2008, Wiley-IEEE Press

This is the first book to take a truly comprehensive look at clustering. It begins with an introduction to cluster analysis and goes on to explore: proximity measures; hierarchical clustering; partition clustering; neural network-based clustering; kernel-based clustering; sequential data clustering; large-scale data clustering; data visualization and high-dimensional data clustering; and cluster validation. The authors assume no previous background in clustering and their generous inclusion of examples and references help make the subject matter comprehensible for readers of varying levels and backgrounds.

CHAPTERS

1. CLUSTER ANALYSIS.
2. PROXIMITY MEASURES.
3. HIERARCHICAL CLUSTERING.
4. PARTITIONAL CLUSTERING.
5. NEURAL NETWORK-BASED CLUSTERING.
6. KERNEL-BASED CLUSTERING.
7. SEQUENTIAL DATA CLUSTERING.
8. LARGE-SCALE DATA CLUSTERING.
9. DATA VISUALIZATION AND HIGH-DIMENSIONAL DATA CLUSTERING.
10. CLUSTER VALIDITY.



BIO

Rui Xu, PhD, is a Research Associate in the Department of Electrical and Computer Engineering at Missouri University of Science and Technology. His research interests include computational intelligence, machine learning, data mining, neural networks, pattern classification, clustering, and bioinformatics. Dr. Xu is a member of the IEEE, the IEEE Computational Intelligence Society (CIS), and Sigma Xi.

Donald C. Wunsch II, PhD, is the M.K. Finley Missouri Distinguished Professor at Missouri University of Science and Technology. His key contributions are in adaptive resonance and reinforcement learning hardware and applications, neurofuzzy regression, improved Traveling Salesman Problem heuristics, clustering, and bioinformatics. He is an IEEE Fellow, the 2005 International Neural Networks Society (INNS) President, and Senior Fellow of the INNS.

Information is courtesy of http://www.wiley.com/WileyCDA/WileyTitle/productCd-0470276800_descCd-authorInfo.html.

2009 MISSOURI CONFERENCE (MOCON) WORKSHOP

WEDNESDAY, 18 March 2009

1. Electrical OverCurrent Protection by Mr. Paul Friemel, PE (Bussmann)

FRIDAY, 20 March 2009

2. Advanced Electrical OverCurrent Protection by Mr. Paul Friemel, PE (Bussmann)

THURSDAY, 25 March 2009

3. High Frequency Circuit Design by Dr. Hahn (UMSL Campus)
4. Grounding and Shielding by Dr. Thomas Van Doren, part 1 of 2 (UMSL Campus)

THURSDAY, 26 March 2009

5. Arc Flash by Mr. Edwin Scherry, PE (UMSL Campus)
6. Signal Integrity by Dr. Jim Hahn (UMSL Campus)
7. Grounding and Shielding by Dr. Thomas Van Doren, part 2 of 2 (UMSL Campus)

FRIDAY, 27 March 2009

8. Circuit Board Layout to Reduce Noise by Dr. Thomas Van Doren (UMSL Campus)
9. Intro to TCP/IP Networking and Appl (1/2 Day) by Mr. Ken Owens (Savvis Com)
10. Advanced Network Implementations (1/2 Day) by Mr. Ken Owens (Savvis Com)
11. Digital Signal Processing by Dr. Jim Hahn (UMSL Campus)

MOCON Registration

Advanced registration for the 2009 Spring Missouri Conference (MoCon) Workshop is now open. Advanced registration fees are \$500.00 for a full day tutorial and \$250 for a ½ day tutorial and available at <http://www.moconstl.com>. Advanced registration will close on 11 March 2009. After that, the fees will be \$550 for a full day tutorial (except for Advanced Electrical Overcurrent Protection, which will remain at \$500.00) and the fees for a ½ day tutorial will be \$275.00. You may use this form to register or you may register online at the MoCon Workshop web site: www.moconstl.com. Classes start at 8:30 am and end at 5:30 pm. Lunch is provided 12:30-1:30 pm. Lunch is also provided for those taking two ½ day tutorials on the same day. IEEE Members receive a 20% discount. PDHs and CEUs will be awarded.

Name _____ Tutorial # _____ Amt Enclosed \$ _____

Address _____ City/State/Zip _____

Email address _____ Tel No. _____ IEEE Member # _____

Remit check (no credit cards, POs OK) To Jerry Herman, MoCon Workshop Treasurer, 2112 McGregor Circle, O'Fallon, MO 63368, payable to "2009 Spring MoCon"

More information, call MR. BOB MENZEL 314-545-6712.

Official Black Box Rules and Guidelines

Continued from, page 6.

1. Students shall participate in teams of one to two students, where every team will be given their own laboratory station. The event duration will be three hours. If more groups register than can be accommodated by a single laboratory, the laboratory spaces will be assigned randomly. The quality of equipment may vary between laboratories, but all students will have access to the same equipment including at minimum an oscilloscope, a function generator, a multimeter, a power supply, a breadboard, and common circuit components
2. Each team will be allowed the use of personal calculators and two bound books of their choice. They may not bring outside laboratory equipment, computers/laptops, unbound reference material, etc. Also, no internet access, computer data acquisition, or software resources will be allowed.
3. The circuit will consist of up to 6 discrete components. The circuit will contain no more than 2 non-linear devices, if any. The non-linear devices are restricted to diodes and transistors (discrete BJT's and MOSFETs are possible, but ICs will not be included). The three standard linear devices, i.e. R, L, and C, will most likely all be present. The students will have access to four terminals that will be connected to four different points in the circuit. Power connections, if required, will be in addition to the four access terminals and the power specifications will be given.
4. The contest coordinator will be last year's winner. All requests, questions, etc. must go through the coordinator. Help related to using the laboratory equipment will be given to the teams, but no help that directly relates to the circuit will be given. Also, hints to ALL participants may or may not be provided during the competition. This is at the coordinator's discretion.
5. A blue essay book will be supplied each team. The documentation and solutions will consist of only handwritten entries, figures, and data; no printout will be considered. Multiple judges will examine and consider the notebooks only. The winners will be determined by a number of factors, including the correct answer (or proximity to) AND the documented steps and logical conclusions used to get that answer. Thus, a schematic, while necessary, is not sufficient alone.
6. Each judge will rank the teams and award 5 points to first, 4 points to second, 3 points to third, 2 points to fourth, and 1 point to fifth. The points awarded by the judges will be tallied and the winners determined by the scores. Ties will be resolved by a majority vote of the judges.
7. Judges decisions will be by majority vote and will be final with regard to disputes, eligibility, team certification, tie results, and other contest conduct. In particular, cheating will not be tolerated and is grounds for immediate disqualification. Cheating includes disrupting another group, copying another team's work, and collaboration with another group or outside individuals.

2009 Chapter Contacts

Aerospace and Electronic Systems Society (AESS)	robert.k.menzel@boeing.com
Communications Society (COMSC)	ken.owens@ieee.org
Computer Society (CS)	jdumaine@stlcc.edu
Engineering in Medicine and Biology (EMBS)	dmoran@biomed.wustl.edu
Industry Applications Society (IAS)	ganeshv@mst.edu
Power and Energy Society (PES)	alazarski@ameren.com
Computational Intelligence Society (CIS)	ganeshv@mst.edu
Computational Intelligence Society (Columbia)	desouzag@missouri.edu
Education Society Chapter	fran@engr.siu.edu
Rolla Subsection	waleed@mst.edu

2009 Affinity Group Contacts

Graduates of the Last Decade (GOLD)	anil@siu.edu
Women In Engineering (WIE)	j.k.stroble@ieee.org

2009 Student Branch Contacts

Florissant Valley (St. Louis Community College)	jdumaine@stlcc.edu
Missouri University of Science and Technology (UMR)	sarangap@mst.edu
University of Missouri - Columbia	Keller.J@missouri.edu
Washington University	jao@wustl.edu
Saint Louis University - Parks College	gharabr@slu.edu
Southern Illinois University - Carbondale	fran@engr.siu.edu
Southern Illinois University – Edwardsville	gengel@siue.edu

Winter 2009 Upcoming Events

Saint Louis Section Birthday	January 14
January Section Planning Meeting	January 22
Deadline for PE Refresher Course Registration	February 13
Engineers' Week Luncheon at Rotary Club	February
PE Refresher Course (every Saturday)	February 21 – April 4
February Section Planning Meeting	February 26
Deadline for MoCON Advanced Registration	March 11
Spring MoCON	March 18, 20, 25-27
March Section Planning Meeting	March 26
Black Box Competition	November

JANUARY 2009

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FEBRUARY 2009

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MARCH 2009

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