

Papers and Presentations

Year 2021

Paper (most recent first)

- When to use rsync? Chin Fang, Les Cottrell, Ezra Kissel Mar 2021. Submitted as a SLAC Technical Note (TN) <https://slac.stanford.edu/pubs/slactns/tn06/slac-tn-21-001.pdf> and also to the DoE Office of Science and Technology (OSTI) <https://www.osti.gov/biblio/1772472-when-use-rsync>. Also see <https://www.hpcwire.com/off-the-wire/doe-technical-report-when-to-use-rsync/>.

Interviews

- AIP

Year 2020

Paper (most recent first)

- [Data Movement Categories](#) Chin Fang, Les Cottrell, Dec 2020. Submitted as a SLAC Technical Note (TN). Also see [Data Movement Types Impact Storage Requirements](#), Tom Coughlin, Forbes, Jan 8, 2021 (may need a subscription).

Year 2019

Talks (most recent first)

- [Long term Monitoring of the World's Networks](#), Les Cottrell Invited talk at the Samsung HQ in Silicon Valley, Sept 17, 2019. [Also see video](#).
- [First international computer network connection between China and US](#), Les Cottrell and Rongsheng Xu, Invited talk at the Symposium on 30 years of BES Physics held at the Institute of High Energy Physics, Beijing, P. R. China, from September 5 to 6, 2019. Also, see the [paper](#) submitted to the BES Symposium.

Year 2018

Papers (most recent first)

- [Substituting Missing Values in End-to-End Internet Performance Measurements Using k-Nearest Neighbors](#), Saqib Ali, Guojan Wang, Bebo White, Roger Leslie Cottrell, 2018 IEEE 16th Intl Conf on Dependable, Autonomic and Secure Computing, 16th Intl Conf on Pervasive Intelligence and Computing, 4th Intl Conf on Big Data Intelligence and Computing and Cyber Science and Technology Congress(DASC/PiCom/DataCom/CyberSciTech), Aug 2018.
- [A Blockchain-Based Decentralized Data Storage and Access Framework for PingER](#), Saqib Ali, Guojun Wang, Bebo White, Roger Leslie Cottrell, 2018 IEEE 16th Intl Conf on Dependable, Autonomic and Secure Computing, 16th Intl Conf on Pervasive Intelligence and Computing, 4th Intl Conf on Big Data Intelligence and Computing and Cyber Science and Technology Congress(DASC/PiCom/DataCom/CyberSciTech), Aug 2018. Also [available at OSTI](#).

Talks (most recent first)

- [The SLAC Linear Coherent Laser Source \(LCLS-II\): The Next Generation World-leading Free Electron Laser, its capabilities, challenging Data transfer requirements and progress to meeting them](#). Les Cottrell, HPC-AI Advisory Council meeting, Stanford University, Feb 20, 2018

Year 2017

Papers

- [Internet Performance Analysis of South Asian Countries using End-to-End Internet Performance Measurements](#), Saqib Ali, Guojan Yang, Roger Leslie Cottrell, Sara Masood. Also [available at OSTI](#).

Talks (most recent first)

- [SLAC Site Report](#) Mark Foster, ESCC meeting Oct 3-5, 2017
- [LCLS-II requirements meeting with ESnet and NERSC](#), presented to OCIO Managers, Les Cottrell, Mark Foster
- [LCLS-II requirements meeting between ESnet, NERSC and SLAC](#), Les Cottrell, Mark Foster, presented at ESCC October 2017
- [SLAC Network requirements, plans and data transfer testing](#), LCLS-II, ESnet, NERSC Requirements meeting SLAC August 3, 2017
- [SLAC network activities](#), Les Cottrell, Presentation to potential employees, May 2017
- [SiteReport-SLAC-LesCottrell.pptx](#) SLAC Site report, ESCC May 2017
- [Efficiently Transferring PetaBytes at ~ 70Gbps](#), presented at ESCC LBNL 5/2/2017
- [SLAC Networking, a Candidate Briefing](#), January 2017

Year 2016

Publications and White Papers (most recent first)

- [High Performance Data Transfers for Distributed Data Intensive Sciences](#), Fang, Cottrell, Hanushevsky, Kroeger, Yang, SLAC-TN-16-01
- Application for the emulation of PingER on android devices, Aditya Pan, Abhay Bansal, Bebo White, Roger Leslie Cottrell, 2016 6th International Conference - Cloud System and Big Data Engineering
- [Analysis and clustering of PingER network data](#), Anwesha Mal;A. Sai Sabitha;Abhay Bansal;Bebo White;Les Cottrell, 2016 6th International Conference - Cloud System and Big Data Engineering (Confluence), Noida, 2016, pp 268-273. - doi:10.1109/CONFLUENCE.2016.7508178
- [Correlation analysis on real-time tab-delimited network monitoring data](#), Aditya Pan; Jahin Majumdar;Abhay Bansal;Bebo White;Roger Leslie Anderton Cottrell, 2016 6th International Conference - Cloud System and Big Data Engineering (Confluence), Noida, 2016, pp 263-267. - doi: 10.1109/CONFLUENCE.2016.7508178
- [Application for the emulation of PingER on android devices](#), Pan, A. Bansal, B. White and R. Cottrell , 2016 6th International Conference - Cloud System and Big Data Engineering (Confluence), Noida, 2016, pp. 537-541. - doi:10.1109/CONFLUENCE.2016.7508178
- International Committee for Future Accelerators - Standing Committee on Inter-Regional Connectivity (ICFA-SCIC) 2016 Report on Network Monitoring, compiled by Shawn McKee, Marian Babik and Les Cottrell on behalf of the working group, January 2016

Talks (most recent first)

- [Survey on Site Perimeter hardening](#), Les Cottrell (SLAC), Surya Singh (PPNL), at ESCC meeting Nov 2016
- [SLAC site report for ESCC Oct 2016](#) given by Les Cottrell
- [High Performance Data Transfer](#), presentation at CHEP 2016, San Francisco Oct 2016
- [Improving Data Center network perimeter security](#), Les Cottrell, Ben Calvert, Bernard Hecker, Jeff Schaefer, presentation to the Unix team 7/12/2016
- [Firewall tightening of data center Unix hosts](#), Les Cottrell, Jeff Schaefer, Bernard Hecker, Kent Reuber, 9/8/2016 [Resources for NetOps](#), Christine Brochon, Les Cottrell, Chris Kennedy
- [Zettar Data Transfer Appliance Testing](#), Les Cottrell, Antonio Ceseracciu, Chin Fang, Presentation at ESCC meeting LBNL 29-30 March, 2016.
- [Tightening the SLAC network perimeter](#), Les Cottrell, presentation given to Unix team, 2/2/2016.

Year 2015

Publications and White Papers (most recent first)

- [An Overview of high-performance parallel Big Data transfers over multiple network channels with Transport Layer Security \(TLS\) and TLS plus Perfect Forward Secrecy \(PFS\)](#), Chin Fang, R (Les) Cottrell, SLAC-TN-15-002, May 2015
- International Committee for Future Accelerators - Standing Committee on Inter-Regional Connectivity (ICFA-SCIC) 2015 [Report on Networking](#), compiled by Les Cottrell, Shawn McKee on behalf of the working group, January 2015

Talks (most recent first)

- [Zettar Data Transfer Node Appliance Testing](#), given by Les Cottrell at ESCC Sept 2015
- Confluence: Easy to use app for web content, presentation/demo for Kelly Gaffney by Les Cottrell 9/17/2015
- [IP Address Expiration](#), Kent Reuber, Yee Ting Li, Les Cottrell, Presented by Les Cottrell to System Admins, May 12, 2015
- [Ultra-high Performance Parallel Big Data Transfer Software for Data-intensive Science](#), presentation by Chin Feng of Zettar at SLAC 3/4/2015.

Year 2014

Publications and White Papers (most recent first)

- [Linked Open Data Publication Process: Application in Networking Performance Measurement Data](#), Renan Souza, Les Cottrell, Bebo White, M. Luiza Campos, Marta Mattoso, submitted to [Stanford conference](#), May 2014, also [SLAC-PUB-15950](#), also see [Poster](#).
- International Committee for Future Accelerators - Standing Committee on Inter-Regional Connectivity (ICFA-SCIC) 2014 [Report on Networking](#), compiled by Les Cottrell, Shawn McKee and Raja Asad on behalf of the working group, January 2014.

Talks (most recent first)

- [Network Highlights](#), presentation for PPA & SSRL, Nov 2014
- [Replacement of database of Internet records at SLAC](#), presentation at Plan of Week
- [Introducing NetDB: Stanford's Open Source IP management system](#), Kent Reuber, October 2012
- [100G Networking Upgrade for Science](#), presentation at Plan of Week meeting Oct 2014.
- [Network Aspects of the SLAC Cyber Security Improvement Program](#), Les Cottrell, Hadas Niv, Ben Calvert presented at the [NLIT Summit 2014 conference](#) in San Francisco, June 29th - July 2nd, 2014
- [PingER Project](#), presentation to Dave MacFarlane, associate Lab Director for PPA, SLAC, March 2014
- [Monitoring the World's Networks](#), Les Cottrell et. al., presented by Prof Harvey Newman at the [ICFA meeting](#) CERN February 2014.
- [Secure Wireless at SLAC](#), Guillaume Cessieux, presentation to the OCIO Operations teams,

Year 2013

Publications and White Papers (most recent first)

- [Africa 'leapfrogs' to wider Internet access](#). Al Jazeera, Sept 2, 2013. Also appeared on [SlashDot Front Page](#), Sept 3, 2013, referenced in SLAC Today as "[SLAC expert weighs in on Internet access in Africa](#)", Sept 6, 2013
- [PingER project data on the health of Africa's Internet networks](#), Africa, April 15, 2013.
- [Why continuous investment and improvement in African ICT infrastructure is important](#), contributed by Les Cottrell to EGy Africa News, Number4, February, 2013.
- [Pinging Africa](#), R. Les Cottrell, IEEE Spectrum February 2013. Also see [A Simple Tool for Measuring Digital Development](#), by R. Les Cottrell, IEEE Spectrum February 2013. This is derived from [SLAC-PUB-15333](#).
- International Committee for Future Accelerators - Standing Committee on Inter-Regional Connectivity (ICFA-SCIC) 2013 [Report on Networking](#), compiled by Les Cottrell, Shawn McKee and Anjum Naveed on behalf of the working group, January 2013.

Talks (most recent first)

- [Silicon Valley and Stanford](#), by Les Cottrell, Universiti Teknologi Malaysia, Johor Bahru, Malaysia, June 27th, 2013
- [High Energy Physics Computing and Network Needs for Worldwide Collaborations](#), by Les Cottrell, Universiti Malaya, June 26th, 2013
- [PingER: Research Opportunities and Trends](#), by Les Cottrell, [PingER workshop](#), Universiti Malaya, Kuala Lumpur, Malaysia, June 26, 2013
- [PingER: Navigating the Web Site and Mining the Data](#), by Les Cottrell, [PingER workshop](#), Universiti Malaya, Kuala Lumpur, Malaysia, June 24th, 2013
- [Survey of Patch management at ESCC Labs](#), by Les Cottrell, ESCC meeting LBL, July 15-16, 2012
- [The Emergence of the Internet and Africa](#), by Les Cottrell, Monday SLAC-wide colloquium, May 6, 2013
- High performance network security at SLAC, [odp](#), [ppt](#), Antonio Ceseracciu, ESCC meeting LBNL January 2013.

Year 2012

Publications and White Papers (most recent first)

- [PingER Workshop Brochure](#), UNIMAS, Malaysia Dec 13-14, 2012
- [Submission to the Silicon Valley Tech Awards 2012, Nov 2012](#).
- [ICSU Grant Progress Report](#), see section 3 on PingER.
- [m-Learning in Classrooms and Research](#), by Les Cottrell, June 2012. Contribution to booklet released under the Creative Commons. The booklet is to promote the open book on [Mobile Science](#) (m-science)
- [PingER status report Jun 2012](#), for [eGYAfrica](#)
- International Committee for Future Accelerators - Standing Committee on Inter-Regional Connectivity (ICFA-SCIC) 2012 [Report on Networking](#), compiled by Les Cottrell, Shawn McKee and Amber Zeb on behalf of the working group, January 2012.

Talks (most recent first)

- [PingER: Opportunities](#), Les Cottrell, University of Malaya, Dec 2013
- [PingER Installation](#), Kashif Satar, notes from hands on session at the PingER Workshop at the University of Malaysia in Sarawak, December 13-17, 2012
- [PingER: Navigating the web site and mining the data](#), Les Cottrell at the PingER Workshop at the University of Malaysia in Sarawak, December 13-17, 2012
- [PingER in Pakistan](#), Kashif Satar, at the PingER Workshop at the University of Malaysia in Sarawak, December 13-17, 2012
- [PingER: Actively measuring the worldwide Internet's end-to-end performance](#) Extended version, by Les Cottrell at the PingER Workshop at the University of Malaysia in Sarawak, December 13-17, 2012
- [PingER Deployment for PERN Performance Monitoring](#), Anjum Navid, at the Malaysia National Research and Education (MYREN) meeting, Kuala Lumpur, Malaysia, Dec 12, 2012.
- [PingER: Actively measuring the worldwide Internet's end-to-end performance](#), by Les Cottrell at the Malaysia National Research and Education (MYREN) meeting, Kuala Lumpur, Malaysia, Dec 12, 2012.
- [The World-wide Digital Divide and Africa](#), Les Cottrell presentation at the eGYAfrica 2012 Workshop, Better Internet Connectivity for Research and Education in Africa, Nairobi, Kenya, Oct 24-26, 2012.
- [Visiting Dignitaries](#), Les Cottrell, presentation to CIO 8/22/2012.
- [Network Roadmap](#), presented by Antonio Ceseracciu to OCIO management.
- [PingER: getting a lot from a simple utility](#), Les Cottrell, Summer 2012 Joint Techs, Stanford CA, July 16, 2012
- [SLAC Networking July 2012](#), Les Cottrell, presentation for the SLAC CIO, July 2012
- [SLAC Telecommunications July 2012](#), Les Cottrell, presentation for the SLAC CIO, July 2012
- [MOU between SLAC & the University of Malaysia in Sarawak \(UNIMAS\)](#), presentation by Les Cottrell to SLAC CIO, June 15, 2012.
- [ESnet VPN Survey Nov 2011](#), Les Cottrell and Guillaume Cessieux, presented at the ESCC Meeting, Baton Rouge, Jan 2012.
- [SLAC Security Compromise - 1998](#), prepared by Les Cottrell for ESCC

Year 2011

Publications and White Papers (most recent first)

International Committee for Future Accelerators - Standing Committee on Inter-Regional Connectivity (ICFA-SCIC) 2011 [Report on Networking](#), compiled by Les Cottrell, Shawn McKee and Zafar Gilani on behalf of the working group, January 2011.

Talks (most recent first)

- [Networking Retrospective](#) presented by Les Cottrell at the 20 year HEPiX Anniversary Meeting, Vancouver, Oct 24-28, 2011.

- [Network Roadmap & Re-architecture](#), Antonio Ceseracciu, presented at the SLAC Scientific Computing Subcommittee, October 6, 2011.
- [Quantifying the worldwide Digital Divide: the emergence of Africa](#), Les Cottrell, ISPA/IWeek, Pretoria, S. Africa, Sep 21, 2011
- [Table of Contents of Lectures](#) by Les Cottrell at [Ecole SIG on Nouvelles Technologies](#) in Democratic Republic Congo, 12-17 Septembre, Organisee par l'Universite de Kinshasa
 - The Internet: where did it come from, what are the challenges ([English](#), [French](#))).
 - Internet, how is it performing ([English](#), [French](#)).
 - Cell phones, how do they work ([English](#), [French](#)).
 - Smartphones and other mobile computers ([English](#), [French](#)).
 - [Network Problem Diagnosis for non-networkers](#).
 - [Pinger Case Studies](#).
- [IPv6 at SLAC](#) Les Cottrell, August 2011
- [SLAC Remote Access VPN over SSL](#) Dan Sneddon Aug 2011.
- [SLAC Computing Highlights](#) presented by Les Cottrell to the Silicon Valley Tour Group, May 13, 2011.
- [Quantifying the Worldwide Digital Divide: The Emergence of Africa](#), Presented by Les Cottrell at the American Physical Society annual meeting, Anaheim, April 30-May 2nd 2011
- [Audio and Web Conferencing via ReadyTalk](#), presented by Les Cottrell at the SLAC IT division all hands, April 26, 2011.
- [PingER end to end Internet measurements: what we learn](#), presented by Les Cottrell at the OARC/TechDay for the ICANN San Francisco March 7th, 2011
- [PERN Network Analysis, 2010-2011](#), presented to PERN March 2nd 2011.
- [SLAC's Networks](#), prepared by Les Cottrell for Kimberly Clarke visitors to SLAC, March 2011
- [Monitoring the World's Networks](#), prepared by Les Cottrell, Zafar Gilani, presented to ICFA by Harvey Newman, February 2011.
- [IP Address Management Survey, December 2011](#), Les Cottrell, ESnet meeting Clemson university February 2011.

Year 2010

Publications and White Papers (Most recent first)

- [The Internet, Mobile Computing and Mobile Phones in Developing Countries](#), Les Cottrell prepared for book "m-Science Sensing, Computing and Dissemination" ISBN 92-95003-43-8 published by ICTP Trieste, November 2010.
- [Evaluation of IP Geolocation Algorithms on PingER and PlanetLab Infrastructures](#), by Fida Gilani et. al. submitted to IEEE INFOCOM 2011 July 30, 2010, also SLAC-PUB-15956
- International Committee for Future Accelerators - Standing Committee on Inter-Regional Connectivity ([ICFA-SCIC](#)) [2010 Report](#) on Networking, compiled by Les Cottrell, Fahad Satti, Shawn McKee and Umar Kalim on behalf of the working group, January 2010.

Talks (Most recent first)

- [African Internet Performance, Fibres and the Soccer World Cup](#), prepared by Les Cottrell, presented at the eGYAfrica conference, Accra, November 2010.
- [China Internet Connection](#) from the Opening Session of [China 2.0: The Rise of a Digital Superpower](#), Beijing and Stanford, October 18-19, 2010
- [Monitoring the World's Networks](#), Harvey Newman and Les Cottrell, Slides prepared for [CHEP10](#), in Taipei, Taiwan October 2010
- [Collaborative DOE Network Monitoring](#), Yee-Ting Li, DoE Annual Review, LBNL, October 5-6 2010.
- [African Internet Performance, Fibres and the Soccer World Cup](#), Les Cottrell, lecture presented at SPACE Weather School: Basic theory & hands-on experience, University of Helwan / Egypt, Sept 18 – Oct 3, 2010
- [First Internet Link between SLAC \(US\) and IHEP \(China\)](#), Les Cottrell, Xu Rong Sheng, presentation at China 2.0 The Rise of a Digital Superpower, Beijing and Stanford, Oct 18-19, 2010. Also see [video re-tracing how China first connected to the Internet in 1994](#) and [China Internet Connection](#).
- [Syllabus of Egyptian lectures](#):
 - [Internet History and needs](#), Les Cottrell, lecture presented at SPACE Weather School: Basic theory & hands-on experience, University of Helwan / Egypt, Sept 18 – Oct 3, 2010
 - [How is the Internet performing](#), Les Cottrell, lecture presented at SPACE Weather School: Basic theory & hands-on experience, University of Helwan / Egypt, Sept 18 – Oct 3, 2010
 - [Cell Phones](#), Les Cottrell, lecture presented at SPACE Weather School: Basic theory & hands-on experience, University of Helwan / Egypt, Sept 18 – Oct 3, 2010
 - [Smart Phones and other mobile computers](#), Les Cottrell, lecture presented at SPACE Weather School: Basic theory & hands-on experience, University of Helwan / Egypt, Sept 18 – Oct 3, 2010
 - [Network Problem diagnosis for non-networkers](#), Les Cottrell, lecture presented at SPACE Weather School: Basic theory & hands-on experience, University of Helwan / Egypt, Sept 18 – Oct 3, 2010
 - [Network Measurements](#), Les Cottrell, lecture presented at SPACE Weather School: Basic theory & hands-on experience, University of Helwan / Egypt, Sept 18 – Oct 3, 2010
 - [Geolocation](#), Les Cottrell, lecture presented at SPACE Weather School: Basic theory & hands-on experience, University of Helwan / Egypt, Sept 18 – Oct 3, 2010
- [Improving SLAC's AT&T cell phone coverage](#), Les Cottrell and Jim Healy, presented at POW meeting 5/17/10.

Year 2009

Publications and White Papers (Most recent first)

- [eGy-Africa: Addressing the digital divide for science in Africa](#), C. E. Barton, C. Amory-Mazaudier, B. Barry, V. Chukwuma, R. L. Cottrell, U. Kalim, A. Mebrahtu, M. Petitdidier, R. Rabiou and C. Reeves, Russian Journal of Earth Sciences, Vol 11, ES1003, Doi: 10.2205/2009ES000377, 2009, published 24, November 2009. Also SLAC-PUB 13852.
- International Committee for Future Accelerators - Standing Committee on Inter-Regional Connectivity ([ICFA-SCIC](#)) [2009 Report](#) compiled by Les Cottrell and Umar Kalim on behalf of the working group, January 2009.

Talks (Most recent first)

- **How does the Internet Work** ([ppt](#), [video](#)) Les Cottrell, Lecture 1 presented at the [Workshop on Scientific Information in the Digital Age: Access and Dissemination ICTP](#), Trieste, Italy October, 2009.
- **How is the Internet Performing** ([ppt](#), [video](#)) Les Cottrell, Lecture 2 presented at the [Workshop on Scientific Information in the Digital Age: Access and Dissemination ICTP](#), Trieste, Italy October, 2009.
- **Network Measurements** ([ppt](#), [video](#)) Les Cottrell, Lecture 3 presented at the [Workshop on Scientific Information in the Digital Age: Access and Dissemination ICTP](#), Trieste, Italy October, 2009.
- **Measuring the Digital Divide** ([ppt](#), [video](#)), Les Cottrell, Lecture 4 presented at the [Workshop on Scientific Information in the Digital Age: Access and Dissemination ICTP](#), Trieste, Italy October, 2009.
- **African Internet Performance, Fibre and the Soccer World Cup**, Les Cottrell & Umar Kalim, Internet2 Africa Regional Interest Group meeting, Monday 5th October 2009, San Antonio, Texas..
- **New E. Coast of Africa Fibre** Les Cottrell and Umar Kalim, presentation to the International Committee on Future Accelerators, August 2009.
- **eGY-Africa: addressing the digital divide for science in Africa** presented Charles Barton, Monique Petitdidier and Les Cottrell, presented in Moscow, at the eGY international conference in Pereslavl-Zalessky, June 3-6, 2009 and CODATA TG meeting "eGY Earth and Space Science Data Interoperability" June 1009.
- **African Internet Performance. How Bad is it? What Can be done?** Presented by Les Cottrell at the [IHY Africa/SCINDA 2009 Conference](#), Livingstone, Zambia, 7-12 June 2009.
- **Digital Divide Africa, eGY and the way Forward** by V. Chukwuma, B Rabi, M Petitdidier, L Cottrell, C. Barton, presented at IHY Africa 2009, Livingstone, Zambia June 2009.
- **Internet Performance to Africa and the Rest of the World** (long version), presented by Les Cottrell at the International Center for Theoretical Physics, Trieste April 24th, 2009,
- **Internet Performance to Africa and the Rest of the World**, presented by Les Cottrell at the [European Geosciences Union General Assembly session on African Cyberinfrastructures](#), Vienna, Austria April 22, 2009.
- **eGY-Africa: addressing the digital divide for science in Africa**, Charles Barton, Australian National University, Monique Petitdidier, CETP/CNRS, France, Les Cottrell, Stanford Linear Accelerator Center, USA, Peter Fox, RPI, Troy, USA, presented at the European Geosciences Union General Assembly session on African Cyberinfrastructures, Vienna, Austria April 22, 2009.
- **Significance of the PingER project and its application to Pakistan Education Research Network (PERN)**, presented by Umar Kalim to PERN - Special Interests Group on Network Monitoring, 8th April, 2009, Higher Education Commission of Pakistan, Islamabad.

Year 2008

Publications and White Papers (Most recent first)

- **Mapping the Digital Divide**, from Symmetry Magazine, Sept 2009
- **Digital Divide in Sub-Saharan African Universities: recommendations and monitoring**, by B. Barry, M. Petitdidier, L. Cottrell, C. Barton for the [IST-Africa conference and exhibition](#), May 07-09, 2008 Windhoek, Namibia. Also SLAC-PUB 13853.
- **Using End-to-End Bandwidth Estimates for Anomaly Detection beyond Enterprise Boundaries**, F. Hussein, U. Kalim, N. Latif, S. Ali Khayam, SLAC-PUB-13399, 2008.

Talks (Most recent first)

- **Digital Divide in Sub-Saharan African Universities: recommendations and monitoring**, by B. Barry, M. Petitdidier, L. Cottrell, C. Barton for the [IST-Africa conference and exhibition](#), May 07-09, 2008 Windhoek, Namibia.
- **Digital Divide, eGY Africa and the Way Forward**, Victor Chukwuma, Babatunde Rabi, Monique Petitdidier, Les Cottrell, Charles Barton.
- **Measuring the Digital Divide**, Presentation by Les Cottrell to Princess Sumaya of Jordan on the occasion of her visit to SLAC, January 18, 2008.
- **SLAC Network Architecture**, by Gary Buhrmaster for the ST&E Review.

Year 2007

Publications and White Papers (Most recent first)

- **Quantifying and Mapping the Digital Divide from an Internet Point of View**, R. Les Cottrell, Shahryar Khan, Jerrod Williams, Akbar Mehdi, Umar Kalim, Arshad Ali, [Asian Applied Computing Conference \(AACC\)](#) Dec 13-15, 2007, Khatmandu, Nepal also [SLAC-PUB-13398](#), Dec 2007
- **Bridging the Digital Divide**, by Phil Charles of the South Africa Astronomy Observatory, SAAO Publication No. 2308 = Quest article
- **Network Weather Forecasting for Management and Analysis of Global Grid and Internet End-to-end (MAGGIE) Performance**, thesis of Fareena Saqib
- **TULIP (Trilateration Utility for Locating IP hosts) - A delay based solution**
- **Quantifying the Digital Divide: A Scientific Overview of Network Connectivity and Grid Infrastructure in South Asian Countries**, S. Khan, R. L. Cottrell, U Kalim, A. Ali, CHEP07. Also [SLAC-PUB 12851](#) and Journal of Physics: Conference Series. [Poster](#)
- **ICFA SCIC 2008 Report**
- **MAGGIE-NS: Annual Progress Report 2007**

Talks (Most recent first)

- **Internet Connectivity in Africa**, presented by Les Cottrell at the Internet and Grids in Africa: An Asset for African Scientists for the Benefit of African Society, 10-12 December 2007, Montpellier France.
- **Internet View of the Digital Divide, Especially for Sub-Saharan Africa**, presented by Les Cottrell at the IHY Africa Workshop 11-16 November 2007, Addis Ababa, Ethiopia.
- **Quantifying the Digital Divide: Latin America, S. Asia, Africa**, presented by Les Cottrell at the ICFA Workshop on Digital Divide Issues for Global Science, Mexico City Oct 24-27, 2007
- **Locating Hosts by TULIP**, presented by Les Cottrell at the Internet2 Fall members Meeting, San Diego October 8, 2007.

- [TULIP \(Trilateration Utility for Locating IP hosts\)](#), presented by Faran Javed
- [Quantifying the Need for Improved Network Performance for S. Asia](#), Les Cottrell, Shahryar Khan, I2 Planning Meeting: Enhancing Research & Education Connectivity to and within S. Asia, Arlington VA, US April 26, 2007
- [Lessons Learned Monitoring](#), Les Cottrell at the ESnet R&D Workshop at Arlington VA, US, April 23, 2007.
- [Quantitative Measurement of the Digital Divide](#), Les Cottrell, Shahryar Khan, presented at the April APS meeting, Jacksonville Florida April 15, 2007
- [MAGGIE NIIT-SLAC On Going projects](#), presented by Adnan Iqbal
- [Next Generation Network Monitoring](#), by Les Cottrell
- [PingER project, perfSONAR, proposal of NIIT, SLAC and PERN for HEC](#), presented by Les Cottrell to Anwar Anjad head of PERN, Pakistan, March 16, 2007
- [Visualilzing the Digital Divide from an Internet View and Some Challenges](#), prepared by Les Cottrell, Umar Kalim, Shahryar Khan and Akbar Mehdi for the COMSATS University, Islamabad, Pakistan
- [Stanford University, SLAC, NIIT, The Digital Divide and Projects](#), given by Les Cottrell to the NIIT undergradates March 15, 2007.
- [Next Generation Network Monitoring for Pakistan, A Proposal](#), presented by Les Cottrell and Arshad Ali to Prof. Dr. Atta-ur-Rehman, chairman of the Higher Education Commission, Pakistan
- [The Digital Divide](#), by Les Cottrell, Shahryar Khan & Akbar Mehdi at the Qaid-e-Azam University Islamabad, Pakistan, March 2007
- [Stanford University, SLAC and NIIT](#), by Les Cottrell at the NIIT Convocation dinner March 9, 2007
- [Testing TCP in the WAN](#) presented by Yee-Ting Li, Microsoft TCP Workshop, 5th-6th February 2007, Microsoft, Redmond, WA.

Photos

- [NIIT 2007 Convocation](#)
- [APS April17, 2007](#)
- [Umar's visit to San Francisco and Muir Woods](#)
- [Umar's visit to Monterey and San Juan Bautista](#)
- [Softec 2007 Award](#)

Previous Papers and Presentations

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- [1993 Review of APS computing and 1994 connecting China to the Internet](#)
- [1965-1991](#)
- There are directories at [/afs/slac/www/grp/scs/net/papers](#) and [/afs/slac/www/grp/scs/net/talks](#) which may be useful.
- Also [Les Cottrell's papers and publications](#) are useful.