

EIC REPORT – October 2009

► Production Report (October 2009)

Publication	Issue	MailDate	2008 PageCnt	2009 PageEst	2009 PageCnt	Paper Ms Pages
Information Theory	Jan	12/29/2008	516	475	476	0
	Feb	2/12/09	432	475	452	0
	Mar	2/27/09	452	475	516	0
	Apr	3/18/09	448	475	512	0
	May	4/22/09	572	475	488	0
	Jun	5/20/09	432	475	488	0
	Jul	6/17/09	560	475	508	0
	Aug	7/16/09	484	475	484	0
	Sep	8/19/09	548	475	464	0
	Oct	9/17/09	384	475	444	0
	Nov		492	475		
	Dec		528	475		
2008 IndexPages						
2009 Total_tabBudget 5700			5848	5700	4832	0
Percent of Total_TABBudget 4832/5700	85%					

► editorial board, October 2009

EZIO BIGLIERI, *Editor-in-Chief*
 CYRIL MÉASSON, *Publications Editor* PREDRAG SPASOJEVIĆ, *Publications Editor*

JOHN B. ANDERSON <i>Book Reviews</i>	MICHAEL GASTPAR <i>Shannon Theory</i>	AMOS LAPIDOTH <i>Shannon Theory</i>	MATTHEW G. PARKER <i>Sequences</i>	LANG TONG <i>Detection and Estimation</i>
RANDALL BERRY <i>Communication Networks</i>	ANDREA J. GOLDSMITH <i>Communications</i>	HANS-ANDREA LOELIGER <i>Coding Techniques</i>	SUNDAR RAJAN <i>Coding Theory</i>	SENNUR ULUKUS <i>Communication Networks</i>
MARIO BLAUM <i>Coding Theory</i>	ALEX GRANT <i>Communications</i>	MARCO LOPS <i>Detection and Estimation</i>	JUSTIN ROMBERG <i>Signal Processing</i>	ADRIAAN J. VAN WIJNGAARDEN <i>Communications</i>
HELMUT BÖLCSKEI <i>Detection and Estimation</i>	PATRICK HAYDEN <i>Quantum Information Theory</i>	KEITH MARTIN <i>Complexity and Cryptography</i>	REIHANEH SAFAVI-NAINI <i>Complexity and Cryptography</i>	EMANUELE VITERBO <i>Coding Techniques</i>
ILYA DUMER <i>Coding Theory</i>	FRANZ HLAWATSCH <i>Detection and Estimation</i>	URBASHI MITRA <i>At Large</i>	IGAL SASON <i>Coding Theory</i>	HIROSUKE YAMAMOTO <i>Shannon Theory</i>
URI EREZ <i>Coding Techniques</i>	SYED ALI JAFAR <i>Communications</i>	MEHUL MOTANI <i>Communication Networks</i>	GADIEL SEROUSSI <i>Coding Theory</i>	EN-HUI YANG <i>Source Coding</i>
ELZA ERKIP <i>Shannon Theory</i>	IOANNIS KONTOYIANNIS <i>Shannon Theory</i>	ARIS L. MOUSTAKAS <i>Communications</i>	ERCHIN SERPEDIN <i>Signal Processing</i>	NAM YUL YU <i>Sequences</i>
TUVI ETZION <i>Coding Theory</i>	GERHARD KRAMER <i>Shannon Theory</i>	ARIA NOSRATINIA <i>Communication Networks</i>	GIORGIO TARICCO <i>Communications</i>	ROY D. YATES <i>Communication Networks</i>
MASSIMO FRANCESCHETTI <i>Communication Networks</i>	ADAM KRZYŻAK <i>Pattern Recognition, Statistical Learning, and Inference</i>	ERIK ORDENTLICH <i>Source Coding</i>	LUDO TOLHUIZEN <i>Coding Theory</i>	LIZHONG ZHENG <i>Communications</i>
TORU FUJIWARA <i>Complexity and Cryptography</i>				

- + Fragouli, Diggavi, Skoglund, Tatikonda
- Dumer, Lapidoth, Seroussi, Tolhuizen
- = 46 Associate Editors (were 26 in June 2007)

APPOINTING NEW ASSOCIATE EDITORS

Senior vs. Junior AEs

- Most troubles came from senior people (too busy, lack of motivation,...)
- Junior people usually more focused
- Senior people often do not accept appointment

✦ It is an honor to receive this invitation, but I am afraid that I have to decline. I became curriculum director here some months ago and that came on top of other duties here. I really see no possibility.

✦ Thanks a lot for your offer which I consider as a great honor to me. Unfortunately I am currently very busy (writing a book, preparing a new course on coding theory and its applications etc) and I'll be in this situation for one-two years, at least. Since duties of an Associate Editor should be taken seriously and carefully I simply cannot do it. Therefore I have to reject your honorable offer.

✦ You have hit me on the wrong leg. Of course I agree to do it but I can do it only in the next period starting 2012. I am old fashioned and consider it as a great honor to be offered to serve in the community. Let me explain you the reason that I should postpone it some time. I have just started two new things etc. etc.

New associate editors to be appointed

- Gerard Cohen, ENST (Coding Theory)
- Navin Kashyap, Queen's Univ. (Coding Theory)
- Jean-Pierre Tillich, INRIA (Coding Theory)
- Pascal Vontobel, HP (Coding Techniques)

Issues on the appointment of new associate editors

- Should only tenured faculty be appointed?
- Is a BoG vote necessary?
- Can appointments be done by email or only in BoG meetings?

“Best editorial practices” document issued

- Instruction of new AEs
- Reduction of sub-to-pub time

STATUS OF THE IT TRANSACTIONS

► Special issue, scheduled December 2009 (but LATE)



CALL FOR PAPERS: Special Issue of the IEEE Transactions on Information Theory on Molecular Biology and Neuroscience

Recently, information theory has gained significant attention in various areas of life sciences, most prominently in bioinformatics, computational molecular biology, and neuroscience. But despite the fact that information theoretic methods were successfully employed for predicting the correlation between DNA mutations and disease, identifying protein binding sequences in nucleic acids, analyzing neural spike trains and higher functionalities of cognitive systems, many more problems at the interface of information theory and biology remain unsolved.

In order to address such problems – including quantifying the information content of shapes, complex patterns, and self-organizing networks, determining spatio-temporal firing codes of neurons, and formalizing the notion of information context – new information-theoretic techniques and analytical frameworks are required.

As natural sciences are becoming more diverse with respect to their number of fields and specializations, a paradigm of union and cooperation between these fields and information theory would represent a major breakthrough. Information theory has the potential to galvanize the field of bioinformatics and neuroscience will be invited to provide the interested reader with comprehensive, yet highly approachable introductions to the biological fields of interest. In the latter case, possible topics for the special issue include, but are not limited to:

The goals of the special issue are to provide the reader with an overview of the most important problems in molecular biology and neuroscience, the state of the art applications of information theory in this field, and to compile a collection of new research results on this subject. The special issue will consist of a mixture of invited and contributed papers. In the former case, leading experts in the area of bioinformatics and neuroscience will be invited to provide the interested reader with comprehensive, yet highly approachable introductions to the biological fields of interest. In the latter case, possible topics for the special issue include, but are not limited to:

- Statistical and information-theoretic analysis of DNA and protein sequences. DNA and protein sequence compression. Motif finding, DNA sequencing, and tandem mass spectrometry data analysis.
- Coding theoretic problems in design and analysis of DNA, CGH, SNP, and tissue microarrays. Modeling and analysis of gene regulatory networks, small-sample gene expression classification and clustering.
- Evolutionary and genomic distance measures. Channel models for DNA mutations and information transfer.
- New information-theoretic measures for analyzing shapes, complex networks, and spatio-temporal maps.
- Information embedded in timing and neuron spiking activity analysis.
- Control and information transfer in sensory systems.

IMPORTANT DATES

Paper proposal submission deadline: November 1st, 2008

Paper submission deadline: January 2009

Completion of first round of reviews: April 2009

Final review and selection of papers: August 2009

Final manuscripts to IEEE: October 2009

Publication of the Special Issue: December 2009

INSTRUCTIONS FOR MANUSCRIPT PREPARATION:

In order to ensure the highest quality of published papers, authors will be asked to submit first a paper proposal, not exceeding 5 pages in length. The proposals will be reviewed by experts in life science and information theory, and only those papers deemed relevant to both areas will be accepted for review.

GUEST EDITORS (IN ALPHABETICAL ORDER)

- Gil Alterovitz, Harvard Medical School/Massachusetts Institute of Technology
- Gerard Battaik, Ecole Nationale Supérieure des Télécommunications, Paris
- Todd P. Coleman, Sean Moyz, Olgica Milenkovic, and Nathan Price, University of Illinois at Urbana-Champaign
- Joachim Hagenauer, Technisches Universität München
- Marco Ramoni, Harvard Medical School
- Ilya Shmulevich, Institute for Systems Biology, University of Washington, Seattle
- Wojciech Sapanowski, Purdue University

► GUEST EIC: Olgica Milenkovic



CALL FOR PAPERS: Special Issue of the IEEE Transactions on Information Theory on Interference Networks

Interference is one of the defining features of a wireless network. How to optimally deal with interference is one of the most critical and least understood aspects of multiuser communication. With the exception of a few special cases, the capacity of even the two-user interference channel remains an open problem. After three decades of relatively little progress on this important problem, recent years have seen a burst of research activity leading to remarkable advances, particularly in terms of approximate capacity characterizations. The recent results have introduced valuable tools such as new deterministic models, defined new metrics such as the generalized degrees of freedom, inspired new techniques such as interference alignment, and given rise to many new and promising avenues for research – such as the need for structured codes, the existence of single letter capacity characterizations, the inseparability of parallel interference networks, the remarkable benefits of opportunistic scheduling schemes, distributed algorithms for interference management, understanding of cooperative/cognitive/competitive interaction, and the security and robustness of the emerging schemes.

The goals of the special issue are to provide the reader with a summary of the state of the art in this rapidly developing area, and to compile a collection of new research results on this subject. The special issue will consist of a mixture of invited and contributed papers. In the former case, leading experts will be invited to provide the interested reader with comprehensive, yet highly approachable introductions to the new ideas. In the latter case, possible topics for the special issue include, but are not limited to:

- Approximate Capacity Characterizations for Gaussian Interference Networks
- Deterministic Models for Interference Networks
- Interference management techniques (Avoidance, Structured Codes, Alignment etc.)
- Game theoretic view of Interference Networks
- Opportunistic Scheduling over Interference Networks
- Diversity Multiplexing Tradeoffs for Interference Networks
- Relaying, feedback, and bidirectional communication over Interference Networks
- Secrecy and Robustness to Jamming for Interference Networks

Within each topic, papers must focus primarily on the information & coding theoretic aspects of the research problem.

IMPORTANT DATES

Paper submission deadline: March 31st 2010
Completion of first round of reviews: June 30th 2010
Revised paper submission deadline: September 31st 2010
Final review and selection of papers: December 31st 2010
Final manuscripts to IEEE: January 2011
Publication of the Special Issue: March 2011

INSTRUCTIONS FOR MANUSCRIPT PREPARATION:

Detailed instructions including formatting and submission details can be found at <http://interference-networks.org>

GUEST EDITORS

- Salman Avestimehr, Cornell University
- Hesham El Gamal, Ohio State University
- Syed Jafar, University of California, Irvine
- Sennur Ulukus, University of Maryland, College Park
- Sriram Vishwanath, University of Texas, Austin

CONTACT

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► New Special issue,
scheduled March 2011

Interference Networks

[Home](#) [Call for papers](#) [Submit for Special Issue](#) [Bibliography](#) [Open Problems](#)

Welcome to Interference-Networks.org!

An interference network is one of the centerpieces in improving our understanding of wireless systems. It is therefore not surprising that considerable energy has been devoted to interference networks by the information, network and related theory research communities over the past few decades. In the domain of information theory, capacity of this channel is known for some special classes of two user interference channel with two transmitters communicating to two receivers. However, a general capacity characterization for the problem still eludes the research community.

This website is intended to serve two purposes:

1. to bring researchers together to work on cutting-edge problems on information networks and
2. to serve as a repository for publications in the domain.

To submit an arXiv or IEEEExplore link to your paper for the publications database, [click here](#).
To submit an open problem in this field, please upload pdf document by [clicking here](#)



- ▶ **New proposal for a Special issue, scheduled February 2011 (*)**

**FACETS of CODING THEORY:
from ALGORITHMS to NETWORKS**

Guest Editors: Michelle Effros, Dave Forney,
Frank R. Kschischang, Muriel Médard,
Andrew C. Singer, Alexander Vardy

() 10 years since the special issue on "Codes on Graphs and Iterative Algorithms," edited by Ralf Kötter, and also 2 years since his passing.*

▶ From Pareja to “Manuscript Central”

Ad hoc committee appointed to organize the transition:

- Alex Grant
- Adriaan J. van Wijngaarden

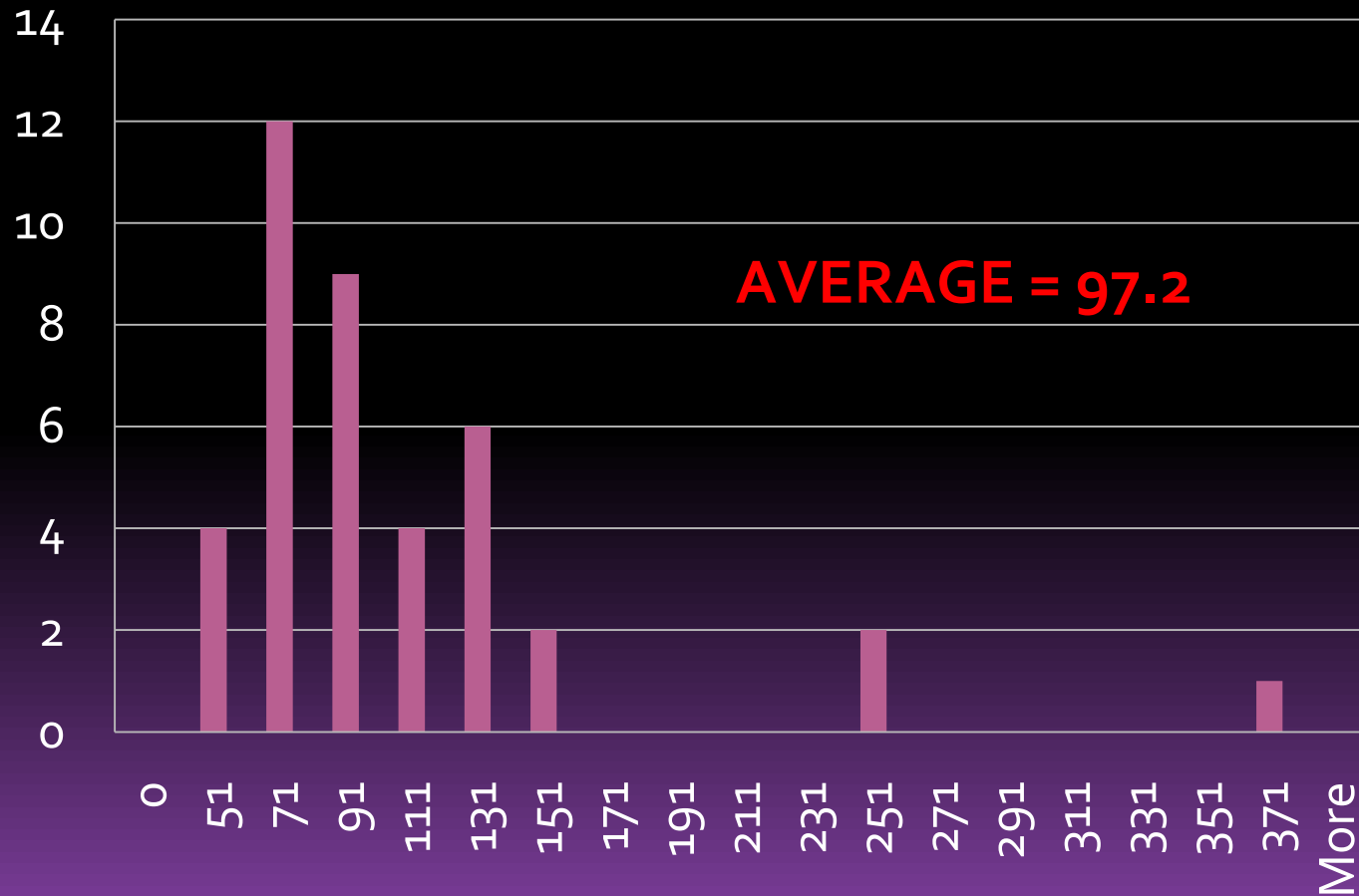
in collaboration with Kevin Quirk and Sonal Parikh (IEEE)

► From Pareja to “Manuscript Central”

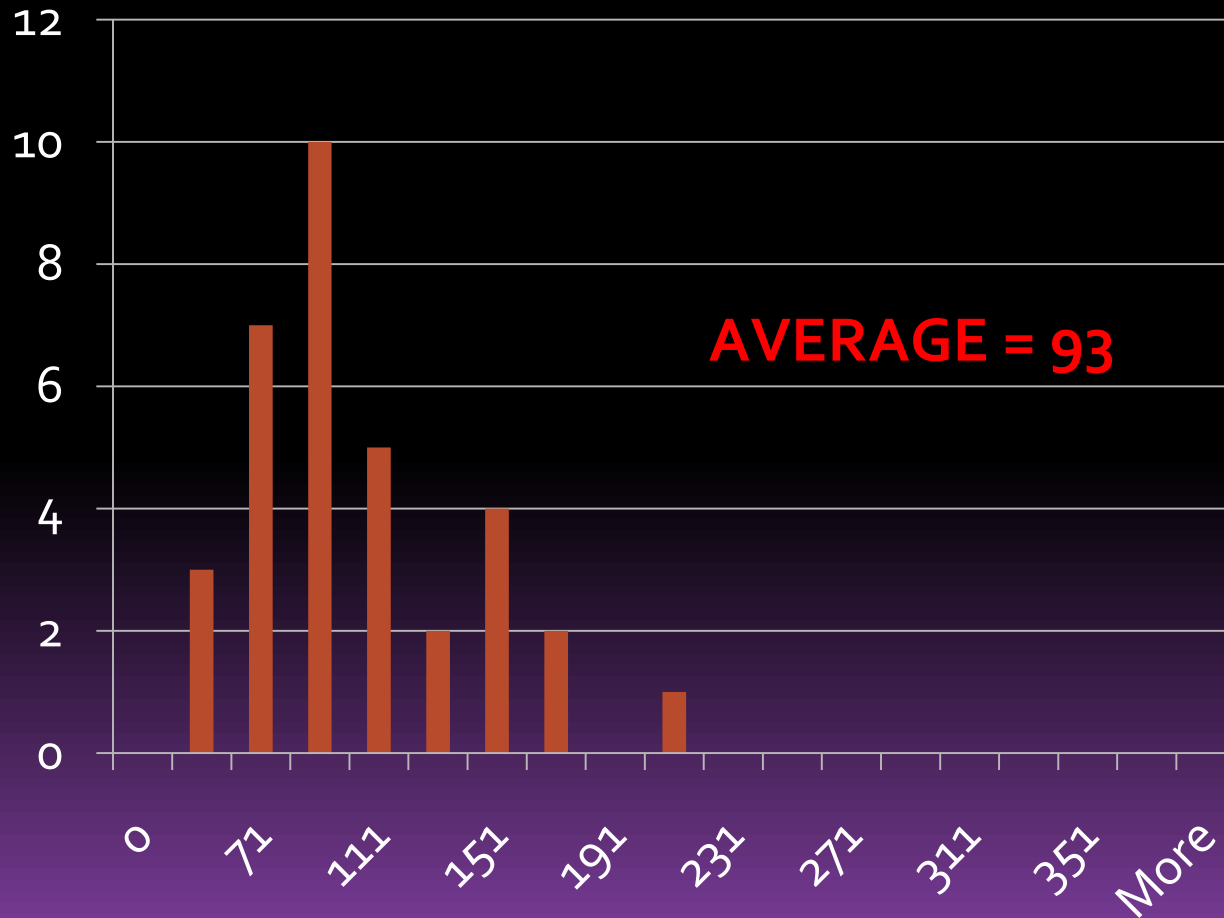
- Migration of all data stored in Pareja apparently not possible
- Pareja and MC will coexist until all Pareja papers end their editorial life
- AEs will use two websites
- Pareja will be progressively offloaded, and hence more stable (disk size seems to be a major problem now)
- At time t_0 all papers will be submitted on MC
- $t_0 = ?$ (July 2010, with new EiC?)

RECENT STATISTICS

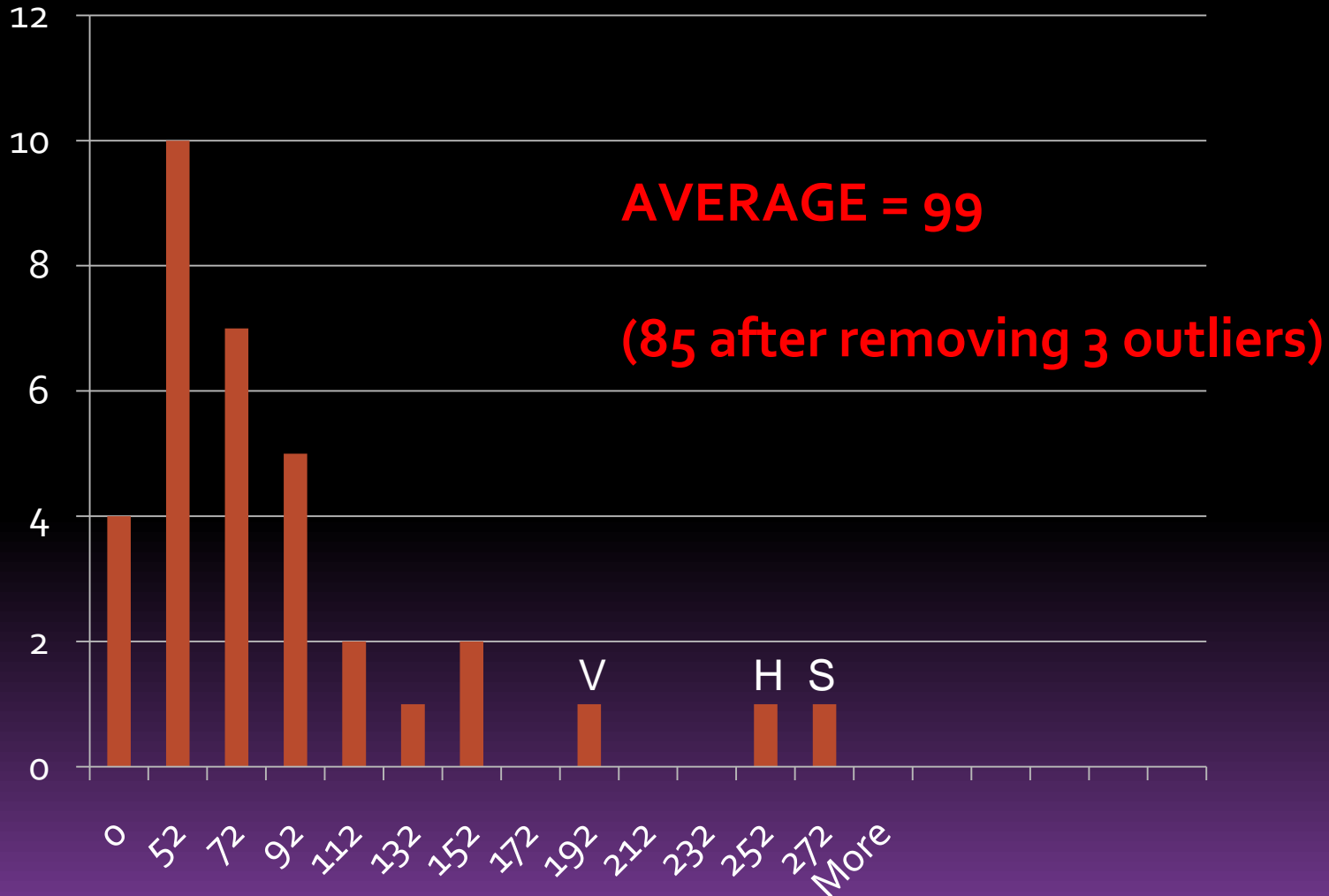
▶ Sub-to-Pub data (January 2009)



▶ Sub-to-Pub data (July 2009)



▶ Sub-to-Pub data (October 2009)



WHAT'S IN STORE FOR US

IEEE NEW IDEAS

New Author Gateway Coming in October

The Author Gateway is developed to link journal authors to information about their articles in the digital production process. Authors will be able to view the status of each article in progress and to quickly ascertain if a proof is available for review and what happens next in the production process.



The Author Connection to the IEEE

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IEEE NEW IDEAS

- *Soon* (i.e., after the Author Gateway is opened), an “open access” service for authors will be offered. The idea is the author will pay (a not yet specified) sum of money to allow everybody to access his/her paper for free from Explore (for a not yet specified period of time).
- IEEE wants to abandon paper-based issues (although they still will print them) in favor of single-article publication. Societies will be given *soon* more information.