EIC REPORT – March 2009

STATUS OF THE IT TRANSACTIONS

- editorial board, January 2009

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

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Book Reviews

RANDALL BERRY
Communication Networks

HELMUT BÖLCSKEI
Detection and Estimation

ILYA DUMER
Coding Theory

ELZA ERKIP
Shannon Theory

TUVI ETZION
Coding Theory

TORU FUJIWARA
Complexity and Cryptography

MICHAEL GASTPAR
Shannon Theory

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Commmunications

ALEX GRANT
Communications

PATRICK HAYDEN
Quantum Information Theory

FRANZ HLAWATSCH
Detection and Estimation

IOANNIS KONTOYIANNIS
Shannon Theory

GERHARD KRAMER
Shannon Theory

ADAM KRZYŻAK
Pattern Recognition, Statistical Learning, and Inference

HANS-ANDREA LOELIGER
Coding Techniques

KEITH MARTIN
Complexity and Cryptography

URBASHI MITRA
At Large

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Communication Networks

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Source Coding

MATTHEW G. PARKER
Sequences

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Coding Theory

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Signal Processing

REIHANEH SAFAVI-NAINI
Complexity and Cryptography

IGAL SASON
Coding Theory

GADIEL SEROUSSI
Coding Theory

GIORGIO TARICCO
Communications

LUDO TOLHUIZEN
Coding Theory

LANG TONG
Detection and Estimation

SENNUR ULUKUS
Communication Networks

ADRIAAN J. VAN WIJNGAARDEN
Communications

EMANUELE VITERBO
Coding Techniques

EN-HUI YANG
Source Coding

HIROSUKE YAMAMOTO
Shannon Theory

NAM YUL YU
Sequences

LIZHONG ZHENG
Communications

MAILING DATES, 2008

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1/3	1/22	2/21	3/20	4/24	5/23	6/19	7/17	8/28	9/18	10/23	12/1

- **Submission data**

Papers submitted, January to December 2008: 984
Papers submitted, January to December 2007: 940

Special issue, scheduled December 2009

IEEE Information Theory Society

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 specialties, 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 biomedical sciences, and these two disciplines can bolster each other towards new insight and discoveries.

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 Battail,** Ecole Nationale Supérieure des Télécommunications, Paris
- **Todd P. Coleman, Sean Meyn, 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 Szpankowski,** Purdue University

Digital Object Identifier 10.1109/TIT.2008.2001683

- GUEST EiC: Olgica Milenkovic
- 40 pre-submissions
- 3–4 invited tutorial/state-of-the-art

Pareja vs. Manuscript Central

Ad hoc committee appointed to recommend changes to Pareja:

- Alex Grant
- Aria Nosratinia
- Giorgio Taricco
- Adriaan J. van Wijngaarden

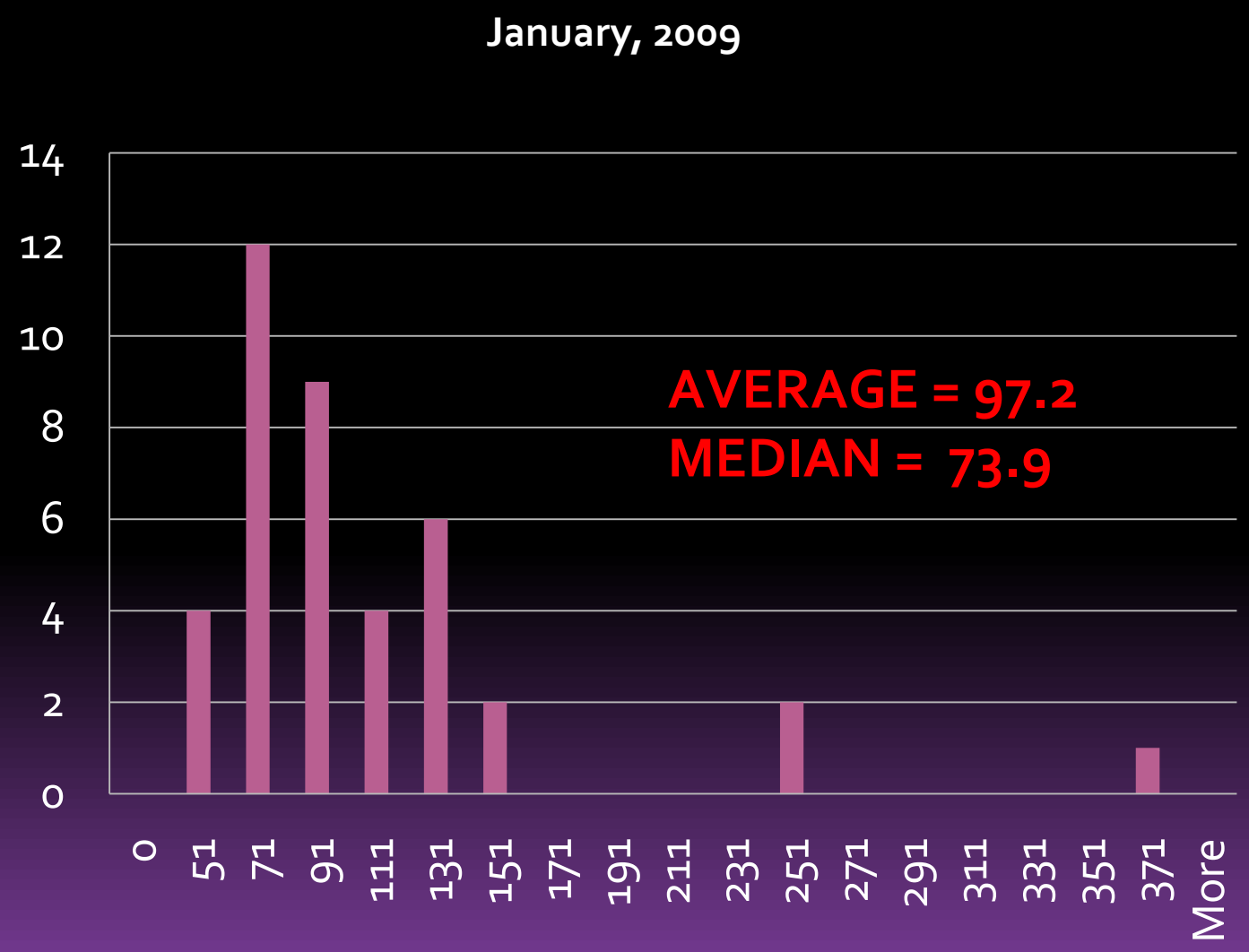
Sub-to-Pub data (RIGGED!)

(report generated for journal content posted to IEEE Xplore in Q3 2008---it refers to all the articles posted in that quarter)

-- Weeks submitted to first revision (Columns A for mean & G for median)
-- Weeks submitted to last revision (Columns B & H)
-- Weeks submitted to accepted (Columns C & I)
-- Weeks submitted to final manuscript received (Columns D & J)
-- Weeks accepted to final manuscript received (Columns E & K)
-- Weeks submitted to online post (Columns F & L)

	A	B	C	D	E	F	G	H	I	J	K	L
T-IT	57.4	57.4	N/A	N/A	N/A	*84.3*	51.2	51.2	N/A	N/A	N/A	*78.2*
T-SP	38.5	38.5	N/A	N/A	N/A	*67.0*	36.8	36.8	N/A	N/A	N/A	*65.9*
ave.	25.9	26.9	29.9	61.0	N/A	*50.9*	20.0	20.8	24.7	61.0	N/A	*43.8*

- Sub-to-Pub data (January 2009)



ASSOCIATE EDITORS LOAD

CODTEC	2.68	3.31			
CODTHE	2.36	2.30	3.67	2.17	2.41
COMMUN	2.86	2.19	2.73	1.64	2.57
COMNET	3.76	3.41	3.33		
CRYPTO	3.33	3.44	3.29		
DETEST	3.27	2.99	2.39		
PATREC	2.92				
QUANIT	2.84				
SEQUEN	2.54	2.56			
SHANTH	2.56	4.79	2.50	2.90	
SOUCOD	2.26	2.09			
SIGPRO	3.17				

- can subscribers of the e-version of the T-ITs receive each month the Table of Contents of the issue?

IEEE response:

- Ability to send TOC alerts to anyone who signs up for them.
- There are two ways to set up TOC alerts.
- Alerts come whenever a new issue is posted to IEEE Xplore.

DECREASING SUB-TO-PUB TIME

sub-to-pub time

operation	who	time
assign to AE	EiC	1—2 days
assign to reviewers	AE	< 1 month
write reviews	REV	**6 months**
make preliminary decision	AE	< 1 month
revise text	author	**< 3 months**
make final decision	AE	< 1 month **?**
submit final text	author	< 1 month
send to publication editor	AE	< 1 month
send to production	PE	every month
production	IEEE staff, EiC	3 months

Decrease AE load

- Increasing AE number may generate problems of homogeneity
- Remove the praxis of a single term for AEs?
- Remove BoG rubber stamp for appointment of AEs?

set stringent deadlines

- For reviews (depending on manuscript's weight)
- For preliminary paper decisions
- For submission of revised version

introduce positive/negative enforcement policy for authors (see Anant's paper)

- Classify reviewers (good/bad)
- Assign papers from good authors to good reviewers and vcv

Upsides:

- Enforce "good citizenship"

Downsides:

- If policy is applied mechanically, students of "bad" professors might be penalized

start campaign for more responsible reviewers (and AEs)

- Positive reinforcement (best-reviewer award) has failed
- Generate effective “how-to” document for training editors and guiding reviewers *[IN PREPARATION]*
- Promote editorials in key publications, reminding members of our shared responsibility to do this job well.

new reviewing procedures

- Rekindle “kibitz” reviewing (*)
- Have more student reviews
- Set up “SWAT” team (selected old AEs?)
- Introduce “diamond lane” for short papers
  (quick review, accept/reject decision only)

(*) kib·itz (kbts) *intr.v.* **kib·itzed**, **kib·itz·ing**, **kib·itz·es**
Informal **1.** To look on and offer unwanted, usually meddlesome advice to others
[Yiddish `kibitsen`, from German `kiebitzen`, from `Kiebitz`, *pewit*, from Middle High German `gibitz`, *pewit*, *of imitative origin*.]