

**[APWiMob 2016] Review Results for Paper #1570298265 ('The Efficiency-Fairness Trade-Off of Social-Rank-based Forwarding in Social Opportunistic Networks')**

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on behalf of

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Wed 7/27/2016 11:47 PM

To: Soelistijanto B <b.soelistijanto@usd.ac.id>

Dear Dr.Bambang Soelistijanto:

PAPER ID : #1570298265, PAPER TITLE: 'The Efficiency-Fairness Trade-Off of Social-Rank-based Forwarding in Social Opportunistic Networks'

Congratulations! The APWiMob 2016 Technical Committee has completed the review process and we are pleased to inform you that the manuscript listed above has been ACCEPTED for presentation in a session at the conference.

Please make the necessary changes based on reviewers' comments and suggestions which can be found at <https://edas.info/showPaper.php?m=1570298265>.

The Technical Program Committee carefully selected reviewers for APWiMob 2016 and assigned reviewers papers in their areas of expertise. Every paper received at least three reviews.

Information on many aspects of APWiMob 2016, including the venue, travel to Bandung, tourism, and visa requirements, are available on the conference web site <http://apwimob.org/>; more information, including the complete technical program, will be available soon.

**CRITICAL INFORMATION:**

**1. Registration and payment**

Please be reminded that the due date for registration is 15 August 2016. At least one author has to register for the conference. Payment and registration details can be found at <https://edas.info/r21988>

**2. PDF eXpress (IEEE Xplore compatible)**

Your revised manuscript must be compatible with IEEE Xplore. Please check with PDF eXpress at <http://www.pdf-express.org/>

The Conference ID is 38671X

Final manuscript PDF must passed PDF format check by IEEE PDF-EXPRESS. You may use PDF Express to convert your docs file to pdf easily.

### 3. Final "camera-ready" manuscript

The final "camera-ready" manuscript of your paper should be submitted in the same manner as the review manuscript using EDAS before 15 August 2016. Do not forget to make an author registration before submitting the final manuscript.

### 4. Electronic copyright form

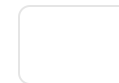
Copyright form should be submitted electronically through EDAS. The detailed information about the submission of final manuscript has been posted at the conference homepage (<http://apwimob.org/registration/>).

- Additionally, note that papers which are not presented at the conference will be excluded from the official proceedings and will not appear on IEEE Xplore. It is therefore very important that at least one author of this paper attend the conference to present the work.

Should you have any question, do not hesitate to contact me. We look forward to seeing you at the Conference.

Regards,

Chair, APWiMob 2016 <http://apwimob.org/>










#27 (1570298265): The Efficiency-Fairness Trade-Off of Social-Rank-based Forwarding in Social Opportunistic Networks

## #27 (1570298265): *The Efficiency-Fairness Trade-Off of Social-Rank-based Forwarding in Social Opportunistic Networks*

BibTeX

Property	Change Add	Value					
Conference and track		2016 IEEE Asia Pacific Conference on Wireless and Mobile (APWiMob) - Mobile and Wireless Networks					
Authors		Affiliation					
		Name	ID	Edit	Flag	(edit for paper)	Email Country
Authors		Bambang Soelistijanto	731989			Sanata Dharma University, Indonesia	b.soelistijanto@usd.ac.id Indonesia
Title	Only the chairs can edit	The Efficiency-Fairness Trade-Off of Social-Rank-based Forwarding in Social Opportunistic Networks					
Abstract	Only the chairs can edit	Social-rank-based forwarding algorithms favour the most popular nodes as the most likely relay nodes to deliver messages to the destinations. When these strategies are able to deliver messages with a high success rate and a low delay in social opportunistic networks (SONs), this however creates unbalanced load distribution, where the most popular nodes carry a much heavier burden compared to others. In this paper, we analyze the efficiency and fairness trade-off of social-rank-based forwarding strategies in SONs. Initially, we investigate the node popularity distribution in real-life SONs. We confirm that the node popularity is power-law distributed, with the existence of a few hub nodes that have many connections with other nodes and therefore are much popular in the entire network. Subsequently, we apply a social-rank-based forwarding algorithm on these human-centric networks. Moreover, we perform two distinct scenarios as follows. In the first scenario, we consider absolute delivery					

efficiency and examine the impact that hub nodes have on the network delivery performance. We show that these nodes enable the network to deliver messages with a high probability in a low delay; however, this consumes much resources on the central nodes. In the second scenario, in contrast, we consider the absolute fairness of resource allocation across the network nodes. We confirm that maintaining this fairness significantly degrades the network delivery performances.

Keywords	Only the chairs can edit	social-rank-based forwarding; social opportunistic networks; node popularity; efficiency-fairness trade-off			
Topics	Only the chairs can edit	Mesh, Relay, Sensor and Ad Hoc Networks; Performance of E2E Protocols over Wireless Networks; Self-organizing networks			
Presenter(s)		presenter not specified			
Registration		Bambang Soelistijanto has <a href="#">registered and paid</a> for <a href="#">Early-Authors:E-Aut-NonMem</a>  			
Session		<i>TECHNICAL SESSION IV</i> from Wed, September 14, 2016 09:45 WIB until 11:00 (1st paper) in MADHUKARA B (20 min.)			
DOI	Only the chairs can edit				
Status		Accepted with minor revisions			
Revisions	not permitted for role	..			
Copyright form		IEEE; IEEE: <a href="#">Aug 11, 2016 23:31 America/New_York</a>			
Presentation	Could upload until <a href="#">Sep 5, 2016 23:59 America/New_York</a> .	However, authors cannot upload: presentation deadline			
		However, authors cannot upload: final deadline			
Final manuscript	Could upload until <a href="#">Aug 25, 2016 23:59 America/New_York</a> .	<b>Document (show)</b> 	<b>Pages</b> 7	<b>File size</b> 337,437	<b>Changed</b> <a href="#">Aug 11, 2016 23:33 America/New_York</a> 
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## Personal notes



You are the creator and an author for this paper. You have authored an accepted paper.

## Reviews

### 3 Reviews

#### Review 1

##### The Research Novelty

Minor variations on a well investigated subject. (2)

##### Research Methods

Research method is easily identified and is appropriate to address the problem (5)

##### Future Impact

Future impact is not defined; the likely impact is questionable (2)

##### The Clarity of Research Question

Problem can be identified, and related to literature review (4)

##### Scientific argument and discussion

Standard arguments that only partially support the conclusion (3)

#### Detailed comments (Please justify your recommendation and suggest improvements in technical content or presentation.)

The author used computer simulation to study the efficiency-fairness trade-off in a delay-tolerant network. Most of numerical behaviors presented here have been reported before. Moreover, one cannot find a quantitative trade-off discussion in the paper (e.g., using a fairness metric to compare different algorithms and their delivery success ratio performance). For both local-fair and global-fair algorithms, the corresponding delivery success ratios degrade significantly (see Figs. 9 and 10), which is contrary to what the author had predicted: "a few most popular nodes carry a heavier burden compared to others, quickly depleting the constraint resources of these nodes, e.g. power and storage, and eventually degrading the network delivery performance." (2nd paragraph, Section I). This is perhaps due to some modelling assumptions used in the simulation.

#### Review 2

##### The Research Novelty

Some interesting ideas and results on a subject well investigated. (3)

##### Research Methods

Research method is easily identified and is appropriate to address the problem (5)

##### Future Impact

Future impact is not explicitly defined; the likely impact is limited (3)

##### The Clarity of Research Question

Problem can be identified, and related to literature review (4)

##### Scientific argument and discussion

Standard arguments that only partially support the conclusion (3)

Detailed comments (Please justify your recommendation and suggest improvements in technical content or presentation.)

The paper presents analysis of the efficiency and fairness trade-off of social-rank-based forwarding strategies in Social Opportunistic Networks.  
The organization of the paper is very well, and it is clearly written.

Review 3

The Research Novelty	Research Methods	Future Impact	The Clarity of Research Question	Scientific argument and discussion
Significant original work and novel results. (4)	Research method is not clearly identified, but inappropriateness is not evident (3)	Future impact is defined but not very clear; the likely impact is relevant to some research/society (4)	Problem can be identified, and related to literature review (4)	Good discussion with adequate evidence to support conclusion (4)

Detailed comments (Please justify your recommendation and suggest improvements in technical content or presentation.)

Accepted