# **Understanding Scientific Conference Tweets**

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# Introduction: Twitter and Science

Scholars use Twitter

- as a device for building and maintaining professional networks
- to advertise own research and publications
- to promote own events (Mahrt, Weller and Peters, 2014).

#### **Research Questions:**

When do peaks of high Twitter usage occur during scientific conferences and what are typical characteristics of communication during such peaks?

The testbed for data collection is the "VfS-Jahrestagung 2014".



# Testbed: The VfS-Jahrestagung

- annual conference of the Verein für Socialpolitik
- Iocation: Germany, Austria, or Switzerland
- ~1,000 attendees
- ~400 talks
- one of the largest and most esteemed economic symposia in Europe

# **Data & Objectives**

### **Data Collection**

Utilized tools: Applied search criteria: Start of data collection: End of data collection: Sum of tweets collected: *TwapperKeeper, Topsy* tweets containing *#vfs2014* 7<sup>th</sup> of September 2014, 00:00 14<sup>th</sup> of September 2014, 23:59 173

Data Analysis

Contemplate for every Tweet:

1. What is the tweet's main **purpose** in communication?

- 2. What kind of resource is the included **URL** (if existent) linked to?
- 3. Which **conference topic** does the tweet refer to (if to any)?

# **Development of a Codebook for the Classification of Tweets**

Starting points for useful categories describing tweet **purposes:** Reinhardt et al. (2009) & Ross et al. (2011)

Purposes were adjusted and extended to better suit the case at hand. The other two classes, **URL-target** and **topic**, were developed from scratch by manually looking for recurring patterns within the collected tweets. Each Tweet was assigned to exactly **one** category for all three classes.



#### **Codebook Evaluation**

The applicability of the codebook was confirmed with an inter-rater reliability (Cohens Kappa, two raters) of 0.83 (91% agreement) for the classification of the purpose of tweets, 0.81 (94% agreement) for the URL-target and 0.60 (65% agreement) for the topic.

# Results #vfs2014-Tweets per Hour during the 4 Conference Days Peak 1 - Example tweet: 25





*Categorization by Purpose:* most of the tweets were sent to repeat or discuss **conference contents** (64%). During peaks this share rose even further, to 77%.



Categorization by URL-Target: most URLs within tweets led to **blogs** (29%), followed by **articles** (26%). During peaks articles were the most shared resource with a share of 50%.



*Categorization by Topic:* the tweets were fairly even distributed over the different topics of the conference, with **economic policies** (24%) and **economics** (21%) being the most discussed topics.

# Conclusions

The categorization of tweets by their text content showed that Twitter communication at scientific conferences is **highest during talks and panel discussions** and **primarily deals with the presented contents**, while organizational aspects, general conference conditions and "small talk" play much smaller roles.

While such findings about tweeting behavior at conferences could be of **value for organizers** of future events, for scientists the more interesting outcome of this study is the **developed codebook**, which has already successfully been applied to another, similar case (Science 2.0 Conference 2014).

# **Future Work**

- Enhancement of the codebook via application to other cases
- In-depth analysis using more sophisticated quantitative and qualitative methods, e.g. factor analysis
- Comparison of Twitter behavior at scientific conferences with "normal" Twitter behavior
- Derivation of general algorithms for the classification of tweets

#### References

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#### Acknowledgments

We thank Ermeline Jaggi for her help during the topical classification of the tweets.

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