

# The Annual General Assembly at 15: A Look Back and a Look Forward

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This year marks the fifteenth Annual General Assembly of the International Association of Maritime Universities. According to the institution, its mission reads in part: to “seek participation of as many qualified maritime universities/faculties as possible; to maintain regular and ongoing communication and exchange among members; to pursue measurable and worthwhile outcomes on specific subjects primarily through Working Groups; to hold a General Assembly annually, and to publish through Editorial Board academic periodicals, news and summaries of activities, and research papers” [www.iamu-edu.org]. While the published proceeding of the Assembly represent only the tangible deliverable manifestations of the conference (there are many other ways in which the assembly could be evaluated) it does provide a material record of the assembly that can be assessed by quantitative and qualitative means. I argue that through the use of data visualization software and specialized search engines we can gain a strong picture of the relevance, popularity, and critical reception of the hundreds of articles that have been published since 1999. The IAMU General Assembly (and its various autonomous annual organizing committees) understandably struggles with the binary of inclusivity and exclusivity. On the one hand, all member institutions are encouraged to participate, and the General Assembly should democratically be representative of all regions; on the other hand the papers of the highest caliber, regardless of origin, are necessarily valued for the reputation of the organization. Moreover, the subject matter across the published proceedings runs the gamut from the highly technical shipboard operations to pedagogical practices and theories to policies and politics of maritime education administration. A valid assessment of the papers and their reception may point the way to a different and better selection process: one which does not sacrifice breadth of analysis and geographical representation for narrow, but more refined fields. Such suggestions may be used in the future to improve the quality and organization of publications, and in turn raise the stature of the IAMU as a whole.

*Keywords:* IAMU, Annual General Assembly, Published Proceedings, Assessment

## 1. Introduction

The Annual General Assembly of the International Association of Maritime Universities will celebrate its fifteenth Annual General Assembly in 2014. Quindecennials may be arbitrary but often symbolic occasions upon which to take stock of progress, assess growth, celebrate accomplishments, and measure success. As an assessment coordinator and one who has had the privilege of participating in a majority of the General Assemblies, the time feels right to review the work of the past assemblies in order to make the most of our future. First, the mission of the organization is for members to cooperate with each other toward common goals, which may be attained through the following activities: “to seek participation of as many qualified maritime universities/faculties as possible; to maintain regular and ongoing communication and exchange among members; to pursue measurable and worthwhile outcomes on specific subjects primarily through Working Groups; to hold a General Assembly annually, and to publish through Editorial Board academic periodicals, news and summaries of activities, and research papers” [1]. Certainly many of these objectives have been implemented, and IAMU is an organization whose influence far transcends the work accomplished at the General Assembly. Membership has grown considerably, IAMU contributes to the maintenance and development of STCW regulations, the work generated by various projects has helped improve Maritime Education and Training across the world, and increasingly IAMU has extended its educational, social, and political influence to myriad aspects of the seafaring industries. The specific concern of this paper, however, is localized to the AGA itself, and specifically to the published proceedings of the Assembly.

It must be acknowledged at the outset, of course, that the intrinsic and extrinsic value of a conference cannot be solely measured by a critical assessment of the papers it produces. While the published proceedings of the Assembly represent the tangible deliverable manifestations of the conference, there are many other ways in which the assembly could be examined. Ideas are exchanged informally, friendships are formed, partnerships are developed, educational networks are created, and the exchange of knowledge occurs across and through many rhizomatic pathways. Furthermore, many people attend and participate in the annual conference without presenting a formal paper: their contributions and networking strategies should not be underestimated.

However, published proceedings of the delivered formal presentations do provide a material record of the assembly that can be assessed with quantitative and qualitative means. Through the use of data mining software and the application of scholarly-based search engines we can gain a strong picture of the relevance, popularity, and critical reception of the hundreds of articles that have been published since 1999. The IAMU General Assembly -- and its various autonomous annual organizing committees -- understandably struggles with the binary of inclusivity and exclusivity. On the one hand, all member institutions are encouraged to participate, and the General Assembly should democratically be representative of all regions; on the other hand the organization necessarily seeks papers of the highest caliber, regardless of origin. Moreover, the subject matter across the published proceedings runs the gamut from highly technical shipboard operations to pedagogical practices and theories to policies and politics of maritime education administration. A valid assessment of the papers and their reception may point the way to a different and better selection process, but one which does not sacrifice breadth of analysis and geographical representation. Such suggestions may be used in the future to improve the quality and organization of publications, and in turn raise the stature of the IAMU as a whole.

A three-pronged approach was taken in the literature review of the aggregated published proceedings, and the methodologies deployed in this approach are detailed in the next section. First, keyword search software was utilized to investigate the content of the essays themselves. Have the focus and orientation of the papers evolved over time? Has a particular subject matter become more dominant than others? Given the broad nature of the assembly, can any trends be identified over the past fifteen years based on language in the proceedings? Second, papers were categorized by country of origin, and by region of origin. Over time, is one country or region represented more prominently than another? If so, is this significant? Does it matter for IAMU's mission of inclusivity? Finally, papers were examined via Google Scholar (which can track the number of citations for each article published, as well as its re-publication history). Such an exercise helps to reveal a paper's global impact beyond the realm of the conference itself.

## **2. Methodology**

As noted above, three different strategies were conducted. Some limitations of the study must be acknowledged at the outset: due to workload issues and time constraints, for this study only the abstracts -- not the entire articles -- were used for the keyword analysis. Also, data was collected from the archives of the IAMU website itself which is missing some of the proceedings. AGA 2, 4, and 5 were not included in this study. Should the findings of this analysis prove interesting and worthy of further exploration, those data points should certainly be included.

### **2.1.1 Keyword Analysis**

The abstracts from the Annual General Assemblies from 1999 to 2013 were extracted from the IAMU website, and from hard copies from the holdings of the library of the California Maritime Academy [2]. Because of the different mediums and configurations of these texts, they were uniformly scanned into PDFs using Adobe Acrobat X Pro and then filtered through its Optimum Character Recognition (OCR) software. As many of the suspicious OCRs were corrected as possible. The files were then converted into plain text and run through VoyantTools, which yields a total word

count of all terms used in the abstracts, a visual word cloud of most common terms, a corpus reader linked back to the text files themselves, and a word trend chart to see word use evolution throughout the published proceedings [3]. An example of a dashboard layout of this program can be seen in Figure 1.

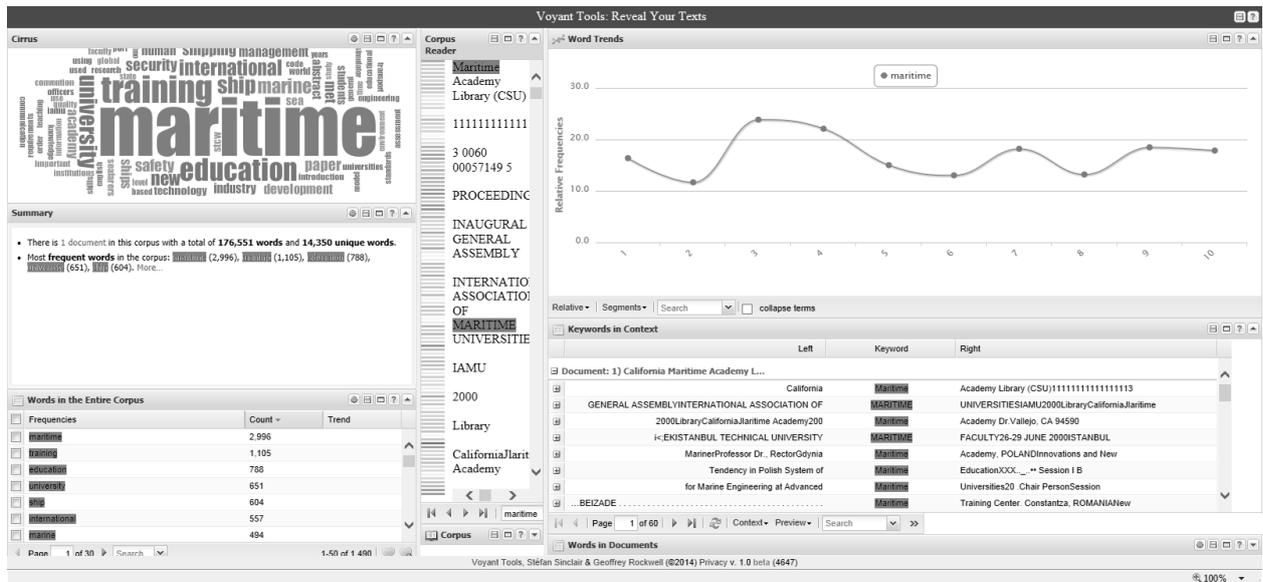


Figure 1. VoyantTools Dashboard for Corpus of IAMU AGA abstracts

## 2.2 Published Proceedings Catalogued by Country and Region of Author

The published proceedings were then organized by author's home country. This was done manually by cross-checking the author's name with affiliated institution. 423 papers were reviewed and placed into charts according to country. Papers were not organized by specific institutions. For example, papers from the United States were not disaggregated by California Maritime, Maine Maritime, SUNY, etc. Papers which had more than one author and whose authorship stretched across two or more nationalities were only counted by the country of the primary author. Papers published under the aegis of the World Maritime University were counted under Sweden.

### 2.3 Examining Published Proceedings via a web search engine for scholarly works.

The abstracts of the published proceedings were then inputted into Google Scholar. This particular engine (as opposed to CiteSeer or Scopus) was selected because of its ease of use and comprehensive searching power. Google Scholar not only searches for digital and scanned physical scholarly works on the web but also through library databases and its own collection of Google Books. A significant feature of the engine is its "cited by" feature, which provides access to titles and abstracts of texts that have cited the article being viewed. This feature of citation indexing provides an evaluative metric by which scholarly works can be assessed. Put simply, Google Scholar tabulates the number of times a given article has been cited by other articles. The higher the number of references, the more valuable that article is in knowledge production and dissemination. There are many criticisms and methodological limitations here – both in Google Scholar itself and its application to the IAMU General Proceedings, and these will be articulated in subsequent sections. The papers and authors were uploaded manually into the search engine.

### 3. Findings

Given the three-stage methodology articulated above, the findings of this analysis conform to the same format, and are broken into three parts.

#### 3.1 Key Words

Using VoyantTools as a software program to scan for key words, it was discovered that in the 423 abstracts inputted, there were 176, 551 words with a total of 14,350 unique words. Common terms were then manually eliminated from the data base – definite and indefinite articles, prepositions, conjunctions, etc. Not surprisingly, the most frequent words in the corpus are: “maritime” (2,996); “training” (1,105); “education” (788); “university” (651); and “ship” (604). “Safety” was the 8<sup>th</sup> most common word, with “security” in 10<sup>th</sup> place. In descending order, “industry” was the 13<sup>th</sup> most used term, with “management” at 19, “sea” at 20. Interestingly, the term “student” only appears in the 21<sup>st</sup> position, with “technology” in the 22<sup>nd</sup> place [4]. Because the abstracts were set into the corpus in chronological order from date of publication, it was also possible to chart the commonality of words through time. Given that some of the proceedings from the past fourteen years were missing, a segmentation value of ten was selected. As an example, when the word “environment” is ran through the system, it is revealed that this term had a relatively low usage in the beginning years of the General Assembly, but spiked by the 8<sup>th</sup> segment before tapering down again. [See Figure 2].

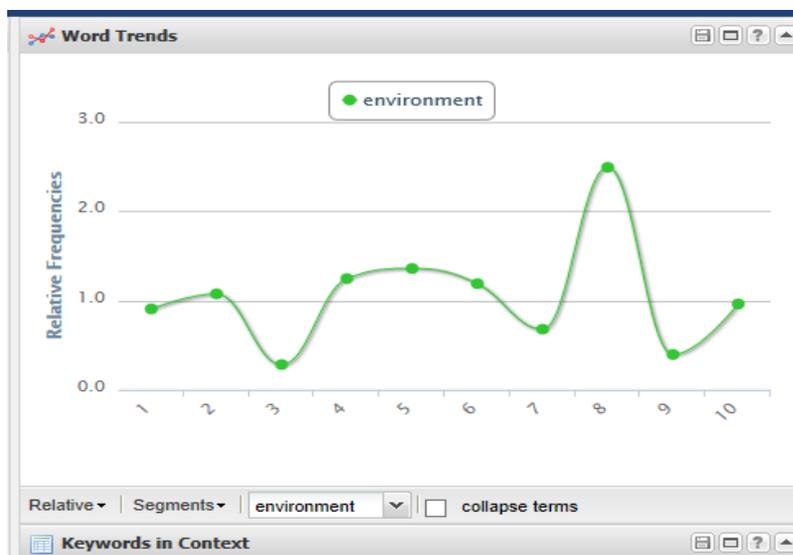


Figure 2: Relative Frequency of the term “environment” across a chronological scan of IAMU Conference Proceedings.

To draw any valid conclusions from this process, however, is fraught with complications. First, as noted above, only the abstracts were reviewed, not the papers themselves, and perhaps the larger texts would produce different results. Second, in the words of Raymond Mooney, "to truly understand language, an intelligent system must be able to connect words, phrases, and sentences to its perception of objects and events in the world. Ideally, an AI system would be able to learn language like a human child, by being exposed to utterances in a rich perceptual environment. The perceptual context would provide the necessary supervisory information, and learning the connection between language and perception would ground the system's semantic representations in its perception of the world" [5]. In other words, the extraction and identification of key words and patterns of repetition over a corpus may provide a snapshot of trending themes and issues, but this process has obvious limitations. For example, just because “security” appears 34% more frequently than the term “student,” this doesn’t necessarily mean that security is valued at that greater percentage

over students. There are causal relationships and hidden relationships in the syntactical data that are not uncovered. Also, the density of the denotative and connotative properties of language cannot be fully expressed in this matrix. Given the example term discussed above the term “environment” could, in different contexts, refer to the natural world, a shipboard environment, a campus community, etc. Each of these valences is important to differentiate when conducting aggregated literature reviews.

This doesn't mean that the exercise is meaningless. As the IAMU evolves, grows larger, and potentially draws in more publications (through the journal, through the published proceedings, and through other venues), data mining of language – particularly as the algorithms in these programs are also becoming more sophisticated and powerful – can prove to be a powerful tool to chart developments in the organization and in MET as a whole.

### 3.2 Proceedings Catalogued by Country of Origin

As noted in the methodology section, the 423 papers were manually sorted by country of origin. The purpose of this exercise was to determine how effective the individual organizing committees over the past fourteen years were in fulfilling the institutional mission which seeks “participation of as many qualified maritime universities/faculties as possible.” A breakdown of AGA papers by national origin is articulated in Figure 3.

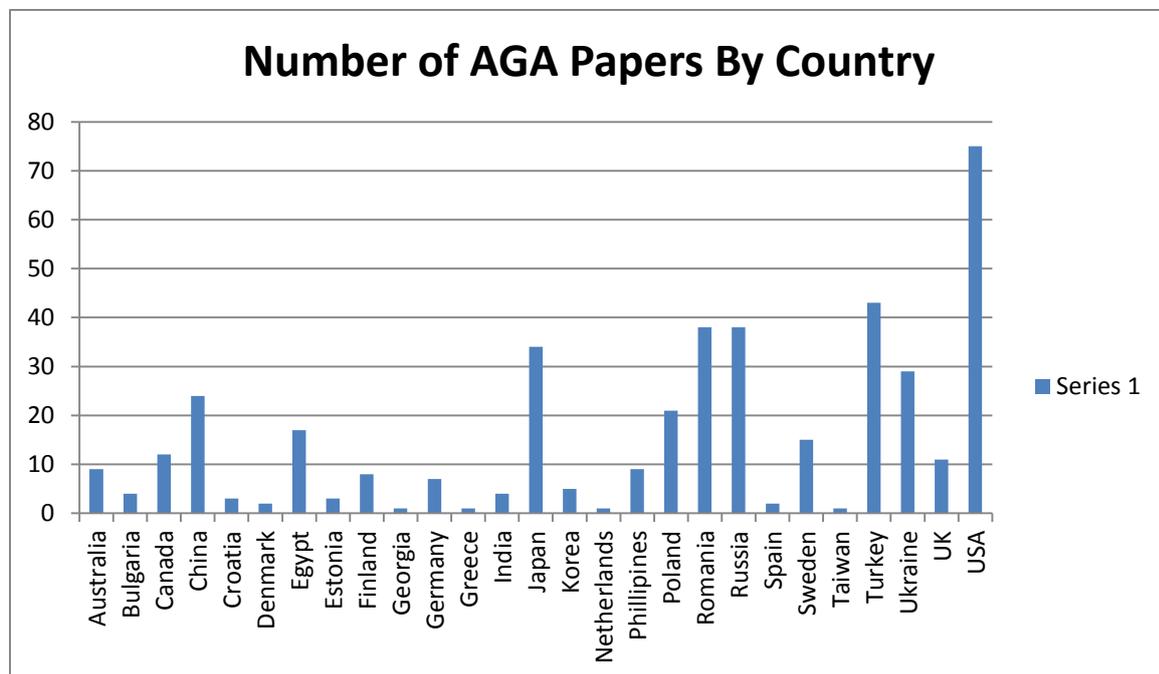


Figure 3. Aggregated Number of AGA Papers 1999-2013 by Country of Author

This data, originally formatted in a simple Excel spreadsheet, was then uploaded to StatPlanet, an interactive and visual mapping software system which can customize national and world maps to create feature-rich infographics [6] Mapping the number of papers-by-country into a visual format with color codes for number of data points, a different conceptualization of global representation is realized.

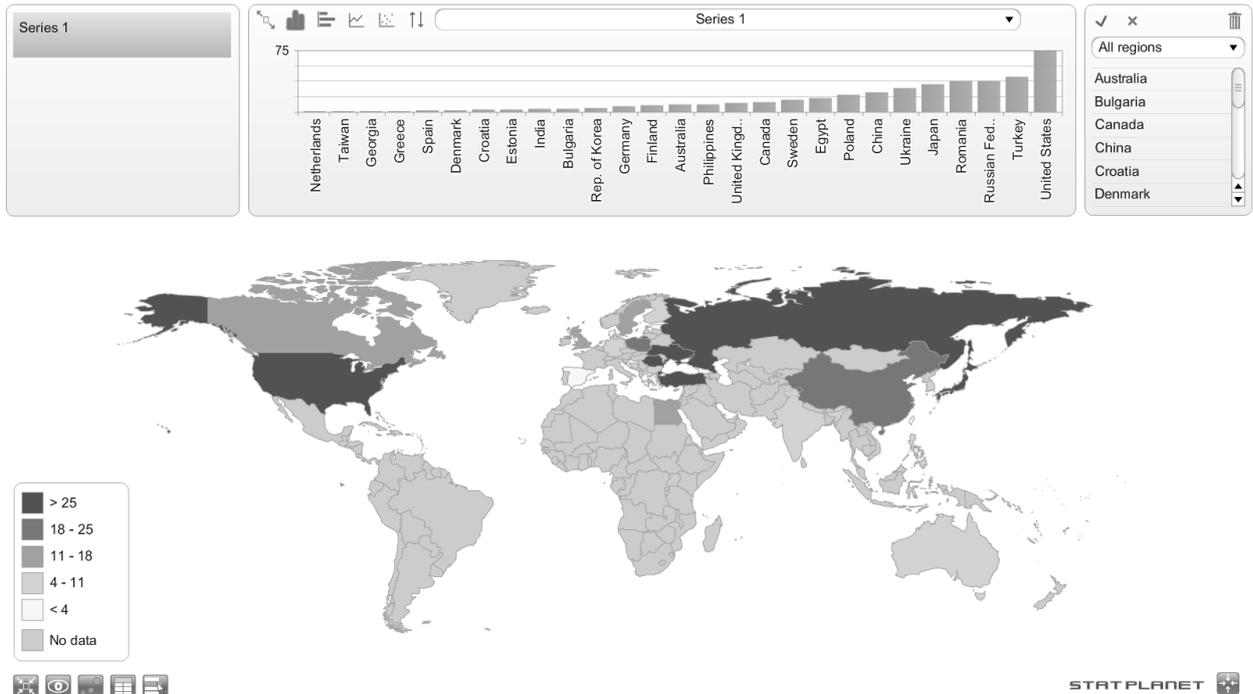


Figure 4: Aggregated Number of AGA Papers 1999-2013 by Country of Author in Map version

From both the simple bar chart and the StatPlanet representation, there appears to be a relatively broad, but unequal distribution of papers delivered at IAMU. The United States has the highest number by a significant margin, followed then by Russia, Romania, Turkey, the Ukraine, and Japan. To correct for the seemingly disparate distribution, the papers were then sorted by region, and crossed with the number of IAMU member institutions in each country. For example, while the U.S. has produced 75 out of the 423 papers in the analyzed proceedings, the U.S. is also home to six IAMU institutions, the most of any single country. When sorted by region (North America, Europe, Asia, etc.), the relative distribution is evened out. [See Figure 5.]

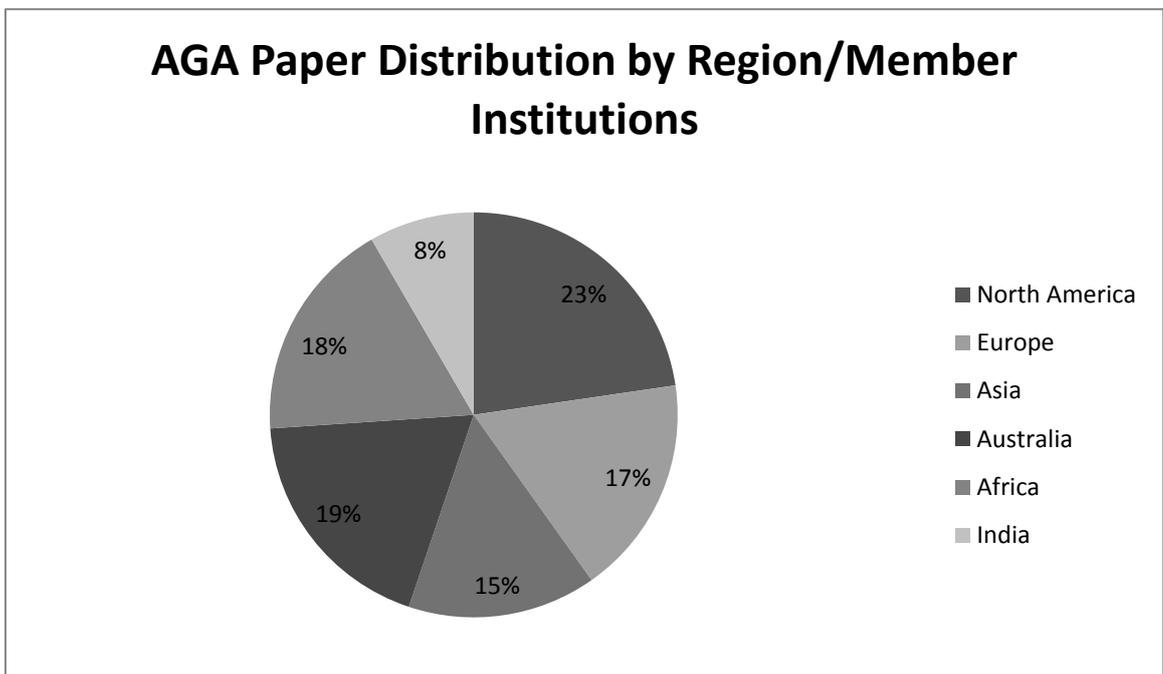


Figure 5 Aggregated Number of AGA Papers 1999-2013 by Region of Author

While this distribution appears to confirm the IAMU’s commitment to the participation of as many qualified maritime universities/faculties as possible, it is also interesting and important to note that of the IAMU’s 53 member institutions; only 28 have contributed to the General Proceedings. There are, of course, many factors which determine this participation level, including internal funding resources, the publicity measures given to the conference on each campus, and the perceived significance of contributions to the IAMU from individual faculty and universities.

### 3.3 Proceedings and Value as Determined by Citation Records

Finally, the General Assembly papers were ran through Google Scholar to assess value through a particular, but inexact, metric. Essay titles and authors were fed into the search engine, and tracked by the number of citations attached to each article. Increasingly, citation tracking has become a recognized way of assessing the impact of scholarly articles. For each volume of AGA Published Proceedings, the number of citations is represented in Figure 6.

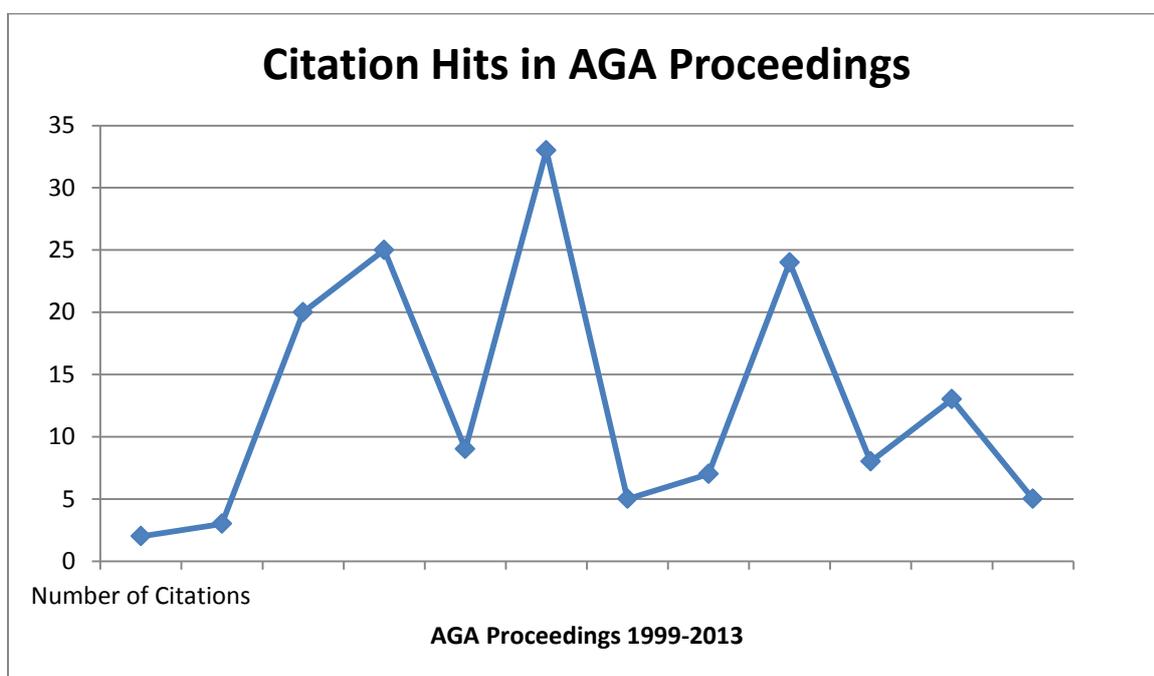


Figure 6: Number of Citations per AGA Proceeding Volume

A few caveats and observations: first, there are some inconsistencies in the data collection. Some AGA articles were republished in different journals (including the *IAMU Journal*), which necessitated a different search for those re-publications. Second, many articles were revised and/or retranslated back into a faculty member’s host language, which is not captured very well by Google. Also, while the citation records may appear to be low, it must be acknowledged that these are published proceedings, created in-house by each conference host committee, and then disseminated and distributed in many (or often not) different ways. From year to year the proceedings may not be included in many of the databases that Google mines. Finally, given the length of time to publish a scholarly article the more recent published proceedings are under-represented in citation-tracks, but this may change in due course.

Beyond this, there are methodological issues with citation-tracking as a measure of an article’s “popularity” vs. its intrinsic worth. The “Benjamin Effect” is in play, which means that as an article accrues more citations, it is pushed to the front of the selected search items, where it in turn accrues

further citations while other, potentially significant scholarly articles languish lower on the search lists. Also, given the complex international nature of the publication process of these proceedings, coverage and incorrect field detection can come into play and interfere with the search process.

#### 4. Observations and Recommendations

As with any initial attempt at a quantitative analysis of something as slippery as language and literature reviews, considerations for improving the methodology are the first to materialize. If this project warrants further development, forthcoming analyses may mine entire papers, not just abstracts. Perhaps the entire corpus of IAMU publications could be included – the *IAMU Journal*, the conference proceedings, and other texts. While it is beyond the scope of this current study, an inquiry into the use-value of the IAMU projects (via distribution platforms, questionnaires regarding cross-institutional implementation, external assessment measures) may also prove to be significant.

To my mind, the motivation for this information and the evaluation of the results raise two philosophical questions which themselves harbor a political element. First, how is one to balance a mission-driven need for inclusivity (“to seek participation from all member institutions”) with an academically-principled commitment to rigor and excellence which may hinge on exclusivity (only those articles of the very highest scholarly quality shall be accepted and published)? There is a very deep need to recognize and embrace the internationalism of the IAMU – the organization will fail without the mutual cooperation and participation of all member institutions. But is there a point where representation for representation’s sake dilutes the power and efficacy of the General Assemblies? Conversely, should efforts be taken to limit the scope of those institutions or nations who may appear to have a larger role in the conference proceedings?

Second, the content of the papers themselves are voluminous and latitudinous. Though this issue doesn’t neatly fall under the purview of this particular analysis, there’s a sense that highly technical essays (on, say, the wiring of consoles for radar instruction) compete with, or are placed amidst, essays on pedagogical theory, essays on STCW interpretations, essays on industry salaries and employment figures, and essays on maritime cultural, social, and political issues. Certainly the topic of Maritime Education and Training is as immense as the seas which produced it, and the tributaries between subject matters are just as fluid. Perhaps the table is large enough to hold it all, but at times the disconnect between one panel and another, or even between papers in a single panel are significant enough to impact cohesion and impede an ability to draw connections from one paper and another.

That said, a valid assessment of the papers and their reception may suggest a means toward a different and better selection process – and these steps have already begun to be implemented. Opting for a two-tier system of refereed and non-refereed papers can allow for broad representation and quality -- a process which does not sacrifice breadth of analysis or geographical origin for narrower, more limited fields. The possibility of blind submissions for the refereed papers may serve to refine the process further.

Furthermore, relationships with other journals should be cultivated and used as pipelines for the IAMU in general and the AGA proceedings in particular. The agreement between IAMU and WMU for the inclusion of an IAMU section in the *Journal of Maritime Affairs* is a profoundly important one. As Glen Blackwood writes, “the opportunity for members to also publish their work in a dedicated IAMU section of the *WMU Journal of Maritime Affairs* is viewed as further enhancing the aims of IAMU. The IAMU section will follow JoMA current policy and contain peer-reviewed articles, peer-reviewed issues of contemporary interest, reports and comments, and book reviews” [7]. Likewise, the *IAMU Journal* should continue to be used as a vehicle through which conference papers are revised and re-published for a wider audience. The AGA Proceedings could be more readily available to the larger public, but this recommendation is given with some reservations: conference papers are more often than not a means by which faculty can test out ideas with their peers and rehearse their ideas in a comfortable setting before revisiting them for further analysis. All these suggestions are meant to make the fine work of the IAMU more present in the larger world.

## 5. Conclusion

The overall intention of this analysis was to assess the IAMU General Assembly to see where its strengths lie, and where it might be improved. It is worth repeating that the conference itself cannot be measured solely by the weight of its published conference papers, any more so than the institution as a whole can be measured by the conference. There is much to be gained in the unmeasurables – the contacts, the solidarity across MET faculty and administrators, and the fertile soil for the free exchange of ideas. Yet if IAMU is to continue to strive to be a world-class organization – one that is respected, valued, known, and admired – it is worthwhile to take stock every 15 years or so to see how far we’ve come, and to see what lies ahead.

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