In or Out? Perceptions of Inclusion and Exclusion among AIS Members

Jaime Windeler  
University of Cincinnati  
USA  
jaime.windeler@uc.edu

Stacie Petter  
Baylor University  
USA

Katherine M. Chudoba  
Utah State University  
USA

Emma Coleman  
University of the Witwatersrand  
South Africa

Grace Fox  
Irish Institute for Digital Business  
Dublin City University Business School  
Dublin, Ireland

Thomas A. Chapman  
Colorado Mesa University  
USA

Abstract:

People want a sense of community, a benefit that a professional association such as the Association for Information Systems (AIS) can provide to members. When attempts to create a shared experience fall short and we feel excluded, we disengage and stop further attempts to participate. In this paper, we lay a foundation for individual and association inclusion practices in the AIS. First, we describe the current state of inclusion practices in the academy and in the AIS. Then, we describe findings from a survey of AIS members that measured their perceptions about inclusion and exclusion and factors that cultivated these perceptions. In doing so, we establish a baseline against which we can measure future change. Our data yields key insights about diversity and inclusion in the AIS, and we offer recommendations for all individuals in various roles and positions in the AIS.

Keywords: Social Inclusion, Exclusion, Diversity, Identity, Academic Communities, Professional Association.
1 Introduction

We believe that the time has come for the Association for Information Systems (AIS) to have a larger discussion related to diversity and inclusion (D&I). While people may find the topic uncomfortable to discuss, we need to engage in a dialogue related to important issues related to D&I in our organization if we want the benefits of being a global organization that represents the interests of all its members. Some AIS members want to participate in discussing D&I but do not feel “allowed” to address or raise their concerns. Other AIS members feel largely included and do not perceive that D&I issues pertain to them. Still others perceive themselves as being on the outside looking in and have become disaffected. Therefore, the AIS needs D&I so that all its members fully engage with it and contribute toward advancing its goals and objectives.

In 2017, a debate on the AIS World listserv that discussed debate censorship, political tension in the AIS, and fear for personal safety at conference locations led the organization to create the AIS Task Force on Social Inclusion. As members of that task force, we focused on understanding how and why people feel excluded from the AIS and to identify ways our community could help people feel more included. We spent two years conducting focus groups, interviews, and member surveys and working with the AIS council. We planned three responses based on our findings. First, recognizing the need for top-down and bottom-up change, we made recommendations to executive leadership, the AIS council. Chief among these recommendations, we suggested that the organization create a standing committee on D&I that could continue the efforts that the task force initiated. Second, we prepared a report for the broader AIS leadership. This report focused on ways leaders in AIS communities (i.e., special interest groups, chapters, and colleges) could enhance D&I with a particular focus on leadership roles. Third, we developed this paper for AIS members. With this paper, we communicate our findings to the larger AIS community and offer recommendations that individuals can adopt to advance D&I through the roles we play in our own universities and organizations and as members and leaders in the AIS.

1.1 Defining D&I

As a prelude to our method, findings, and recommendations, we highlight two issues that arose as barriers to discussing D&I: accessibility and achievability. Through focus groups, survey, and other interactions with AIS members, we found that some people did not wish to engage with the topic because they did not perceive it as accessible (i.e., not relevant, not socially acceptable for them to discuss) or achievable (i.e., difficult for them to affect). To address these barriers, we first need to understand D&I in a shared way. Diversity refers to the quality of being different or unique in individual- or group-level characteristics, such as age, ethnicity, gender, gender identity, language, nationality, emotional, physical, mental and developmental abilities, race, religion, sexual orientation, skin color, or socio-economic status (Trauth, 2017a). Inclusion refers to recognizing, incorporating, and valuing diversity, which helps a diverse set of people work together. When addressing social-inclusion issues, diversity typically refers to demographic or identity attributes over which people have little or no choice, but it can also refer to non-demographic differences relevant in a social context. We might identify with attributes related to scholarship such as conducting technical, economic, or behavioral research or using quantitative and qualitative methods, which represent other ways to characterize diversity in the AIS.

1.2 Barriers to Discussing D&I: Accessibility and Achievability

Our description in Section 1.1 highlights the ways in which D&I pertains to AIS members and the ways in which they can access it. One can categorize identity in many ways, and people can be in majority/dominant and minority/non-dominant groups at the same time (Strauss, 2007). Some AIS members enjoy “majority” benefits due to their gender, age, PhD program they attended, their doctoral advisor, or institution of employment. Conversely, many can also experience disadvantages due to falling outside the majority in certain respects (e.g., they have overly “niche” research interests or other AIS members do not understand their preferred methodologies well). At some point, even members fortunate enough to belong to many majority/dominant groups would be “too young” or “too old” relative to another group.
It is problematic for individuals to ignore D&I issues because identity and, thus, minority status depends on a social context that constantly changes as we move throughout our day and over time with demographic shifts in countries and communities. Likely, each person will be a minority at some point and in some place; thus, we should all own D&I. We diminish D&I’s importance and distance ourselves from responsibility when we relegate it to only being “for” or “about” disabled women or gay people of color. Ignoring or distancing ourselves from D&I means forgoing numerous benefits, such as greater innovation potential and access to information (Olbrich, Trauth, Neiderman, & Gregor, 2015). Owing to D&I’s social and economic importance, many organizations (particularly in the technology sector) recognize the need to adopt policies that focus on inclusion and belonging (Muro & Perry, 2018). Similarly, professional scholarly associations, such as the Association for Computing Machinery (ACM) and Academy of Management (AoM), have created inclusion policies and practices with implications for all members.

Psychologically owning D&I empowers AIS members to exercise the right to raise issues of D&I that affect them—from unintentional oversights to discrimination. Psychological ownership also gives them the freedom to make social inclusion mistakes. Fear of saying the wrong thing or being called out as privileged leads many to distance themselves from D&I topics. As educators, we know mistakes represent a good way to learn; psychologically owning D&I can help AIS members advocate for themselves and avoid self-censorship. With these rights comes the responsibility to advocate for others who may be excluded. Advocating for oneself and others is part of “owning” D&I. Doing so expands one’s identity and allows one to see and present oneself as a member of the social inclusion “team”. We welcome everyone to be on the social inclusion team, but we recognize that not everyone will feel immediately welcome. Thus, in this paper, we outline ways for AIS members to personally cultivate ownership and achieve a more diverse and inclusive AIS.

1.3 Report Outline

In Section 2, we benchmark D&I in the AIS by describing the current state of inclusion practices in the academy and in the AIS. This section has an accompanying Appendix (Appendix A) that identifies efforts that the AIS has to encourage D&I. In Section 3, we establish a baseline against which we can measure future change in D&I practices by drawing on an AIS-wide survey that measured how members perceive social inclusion and exclusion and the factors that cultivate these perceptions. We also examined qualitative data gathered through survey and focus groups to better understand the issues. Appendix B provides survey items and lessons learned from administering the survey. In Section 4, we describe key insights about D&I in the AIS, and, in Section 5, we provide recommendations based on our findings. We summarize these findings and recommendations in Table 1 below. We designed our recommendations to be practical, actionable, and achievable. Although we discuss organizational-level actions and recommendations for AIS leadership, we believe that the AIS does not exist separately from its members—we constitute the AIS. Any member can enact personal D&I practices and push for change in the AIS. With this report, we focus on helping AIS members identify these personal practices.
Table 1. Summary of Insights and Recommendations

<table>
<thead>
<tr>
<th>Key insights</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Reasons why individuals perceive social inclusion or exclusion:</strong></td>
</tr>
<tr>
<td>• <strong>Geography:</strong> respondents in Region 3 (Asia) reported higher perceived exclusion and differed significantly from Regions 1 (Americas) and 2 (Europe) respondents.</td>
</tr>
<tr>
<td>• <strong>Academic rank:</strong> participants in the late career stage reported higher perceptions of inclusion in the AIS and in AIS communities compared to those in the early career stages.</td>
</tr>
<tr>
<td>• <strong>Social and human capital:</strong> respondents most often mentioned exclusion from elite, closed networks (“the in-crowd, “the establishment”); language and geographic barriers; and research focus for driving perceived exclusion in the AIS.</td>
</tr>
<tr>
<td><strong>Role of AIS structures to support perceived social inclusion or exclusion:</strong></td>
</tr>
<tr>
<td>• <strong>Participation in AIS communities:</strong> individuals engaged with AIS communities tend to have higher perceptions of social inclusion as they engage in smaller groups in which they can feel welcomed and make an impact.</td>
</tr>
<tr>
<td>• <strong>Inclusion stronger at community-level than association-level:</strong> while individuals tend to feel more included in AIS communities compared to the overall association, we found a strong relationship among perceptions of inclusion in AIS communities and perception of inclusion with the association.</td>
</tr>
<tr>
<td><strong>Recommendations</strong></td>
</tr>
<tr>
<td>• <strong>Promoting diversity and inclusion through personal practices:</strong></td>
</tr>
<tr>
<td>• Seek opportunities to participate in the AIS based on your means, abilities, and goals.</td>
</tr>
<tr>
<td>• Join a community with a shared research interest, geography, or professional role.</td>
</tr>
<tr>
<td>• Identify people outside of your typical network to engage in activities, such as panel participation, reviewing, and leadership roles.</td>
</tr>
<tr>
<td>• Recognize the diversity among members of the AIS based on factors such as geography, academic rank, academic institutions, and social group.</td>
</tr>
<tr>
<td>• Be mindful of opportunities to promote inclusion in the AIS in the classroom, in research, and in service.</td>
</tr>
<tr>
<td>• <strong>Promoting diversity and inclusion through AIS structures:</strong></td>
</tr>
<tr>
<td>• Recruit members across ranks, including both clinical and tenure tracks.</td>
</tr>
<tr>
<td>• Communicate with new members through the community website, conference events, and community-level communication to help people feel included.</td>
</tr>
<tr>
<td>• Encourage connections among newer or early-career members (i.e., doctoral students or junior faculty) with those who have a more established career.</td>
</tr>
<tr>
<td>• Create mechanisms for community members to volunteer or engage in decision making and participation.</td>
</tr>
<tr>
<td>• Develop a role in the community to focus on issues related to diversity, inclusion, and member engagement.</td>
</tr>
<tr>
<td>• Promote successes of community members through newsletters or emails.</td>
</tr>
<tr>
<td>• Offer awards for community members with outstanding achievements and efforts, particularly members who engage in significant service to the community.</td>
</tr>
<tr>
<td>• Nominate community members for AIS awards.</td>
</tr>
<tr>
<td>• Create inclusive events for members with particular consideration to minimize needs for travel through using virtual conferences or webinars.</td>
</tr>
<tr>
<td>• Think more broadly about those who participate in AIS community events and set goals to actively promote diversity.</td>
</tr>
</tbody>
</table>

2 Benchmarking D&I in the AIS

In supporting social inclusion and avoiding social exclusion, organizations such as the AIS face wide-ranging challenges. Other professional organizations similar to the AIS have addressed inclusion issues with varying levels of depth. The Decision Sciences Institute (DSI) and INFORMS, for instance, both refer to diversity as people from different disciplines who embody different professional skill sets. Other professional and academic associations have developed more formal approaches to D&I by incorporating specific groups. For instance, the AoM and IEEE both have committees to support and promote D&I efforts. The AoM Diversity and Inclusion Theme Committee has a mission “to provide learning and outreach opportunities that foster a more diverse and inclusive Academy of Management community” to make its members feel welcome and inspired to bring their best creativity, intellect, and effort to the Academy (Academy of Management, 2015). IEEE has a Technical Activities Board (TAB) Committee on Diversity and Inclusion ensures “that TAB policies, procedures, and practices are conducive to creating and maintaining a diverse and inclusive environment that is valuable for all members” (IEEE, n.d.). The ACM embraces a “big tent” philosophy to recognize the diversity of its members in terms of research and
practice backgrounds and the many disciplines in ACM. ACM also has a women’s council and activities to support underrepresented groups in computing\(^1\).

### 2.1 Current D&I Practices in the AIS

As a global organization, the AIS has multiple bylaws and practices that support diversity and social inclusion among its members. In particular, many such actions focus on ensuring geographic diversity across the three AIS regions. Region 1 represents the Americas; Region 2 represents Europe, Middle East, and Africa; and Region 3 represents Asia and the Pacific. As of December, 2018, approximately 47 percent of AIS members come from Region 1, 28 percent from Region 2, and 25 percent from Region 3. The AIS has deliberately focused on enabling its various aspects to represent all three world regions. The AIS offers varied membership rates based on the United Nations Economic Development Index\(^2\), and members can access language-specific journals in the AIS eLibrary. Furthermore, the AIS’s focus on geographic diversity also ensures variation based on research traditions, natural language, culture, and socio-economic backgrounds. Appendix A identifies some of the policies, practices, and efforts that the AIS has employed or considered to support different forms of D&I.

### 2.2 Emerging D&I Practices in the AIS

Recently, due the SIG Social Inclusion Task Force’s efforts, AIS has adopted two other D&I initiatives. First, the AIS has developed a standing Committee on Diversity and Inclusion\(^3\). This committee, which a representative of the SIG Social Inclusion Task Force chairs, includes the vice president of member services and chapters and two representatives from each AIS region. In forming the Diversity and Inclusion Committee’s initial membership, the organization took care to ensure diversity in gender, ethnicity, region, academic rank, and research backgrounds. Among its early achievements, the committee recommended a D&I statement for the AIS, which the AIS council has now been approved and adopted. The statement identifies the values of D&I for the AIS. The formally adopted AIS diversity and inclusion statement, which also defines D&I, states:

> The open exchange of ideas and the freedom of thought and expression are central to the aims and goals of the AIS community. These require an environment that recognizes the inherent worth of every person and a group that fosters dignity, understanding, mutual respect, and that embraces diversity. The AIS community is committed to enabling and promoting all AIS members’ full participation in the activities, groups, and decision-making of the AIS without distinction and/or discrimination on the basis of individual or group differences.

#### AIS Conferences

Conferences play an important role in disseminating knowledge and promoting communication and interactions among AIS members. The AIS community is concerned about discriminatory legislation, biased and/or inequitable practices in various locations. In support of providing inclusive and non-discriminatory experiences at AIS conferences and events, the AIS will work with conference organizers to identify and address location-related issues to the best of its ability and to communicate unresolved issues to AIS members.

**Diversity** means all the individual or group differences that characterize current and future membership of the Association for Information Systems (AIS) community. These include, but are not limited to, differences in career or employment status, academic rank, geographic location, age, biological sex, citizenship, disability, ethnicity, gender identity or expression, language, marital status, national origin, race, religion, sexual orientation, skin color, and socioeconomic status.

**Inclusion** means that all AIS members can be involved and participate in any and all AIS activities and groups, depending on their interests and wishes. All AIS members will have their voices heard and valued and have fair and reasonable opportunities to influence AIS policies and decision-making. (AIS, n.d.-a)

---

1. https://www.acm.org/about-acm/about-the-acm-organization
3. See https://aisnet.org/page/CommitteesTaskForces
Although the AIS has adopted socially inclusive policies and may not deliberately attempt to exclude individuals from membership or participation, passive exclusion still arises due to structural barriers and social behaviors based on unconscious biases that have become norms in our community. Social exclusion relates to not only inequalities in demographics and socio-economic status but also deep-seated issues of political and institutional arrangements and discrepancies among social norms across cultures (Trauth & Quesenberry, 2006). This task force sought to examine D&I issues and, specifically, to: 1) examine how well AIS and its subcommunities (i.e., special interest groups (SIGs), chapters, and colleges) support social inclusion, 2) identify concerns associated with active or passive social exclusion, and 3) look for opportunities to improve inclusion as a practice within AIS to make the community more inclusive.

### 3 Methodology

To establish a baseline understanding of D&I among AIS members, we conducted a survey using items from a survey that the AoM’s Diversity and Inclusion Theme Committee conducted. To refine the survey, we conducted focus groups and interviews with AIS members via sessions at the America’s Conference on Information Systems (AMCIS) and through open calls to the SIG for Social Inclusion and AISWorld listserv. We also sought feedback on the survey design from established social inclusion scholars in the discipline and from AIS council members. We used the insights from these interactions to improve the survey’s clarity and to ensure we would obtain findings that we could use to understand issues associated with diversity, inclusion, and exclusion among AIS members.

#### 3.1 Survey Content and Distribution

We asked respondents a series of questions using items from previously validated constructs to understand inclusion and exclusion issues that individuals in the AIS and the AIS communities perceived as important to their work life. Appendix B provides items and information about the survey.

Given our survey’s nature, we expected challenges in obtaining a representative sample of AIS membership. Individuals who tend to have strong feelings of inclusion may not see the value in responding to a survey on inclusion. Those who have felt excluded are more likely to respond to the survey given the topic’s nature. We reached out to various networks to encourage broad participation. Individuals could undertake the survey for approximately one month from August to September, 2017. During this time, direct emails to AIS members from the AIS (e.g., AIS Insider), the AISWorld listserv, direct emails from AIS leaders and posts to community listserv/message boards, direct emails from Region 2 and Region 3 representatives, and emails to recent doctoral consortium participants and other groups encouraged members to participate.

#### 3.2 Survey Sample Characteristics

To understand our sample’s representativeness, we compared our respondents’ demographic attributes to the 2017 membership data that the AIS collected. In total, 761 people accessed the survey, though only 401 provided usable responses for our final data set, which represents about 10 percent of the AIS’s membership. For our survey, 48 percent of the respondents were men, 38 percent women, three percent preferred not to self-describe, one percent identified as non-binary, and 10 percent chose not to answer. In contrast, at the time we conducted the survey, the AIS membership comprised 60 percent men, 28 percent women, and 12 percent who preferred not to answer. Thus, our survey included a slightly higher percentage of women and lower percentage of men compared to the overall AIS population. We attribute this difference partially to our outreach through the Women’s Network for survey participation, a group motivated to respond due to concerns about women’s inclusion in the AIS (Loiacono, Iyer, Armstrong, Beekhuysen, & Craig, 2016; Loiacono, Gupta, Dutchak, & Thatcher, Forthcoming).

As for world region, our sample included 46 percent of respondents from Region 1, 36 percent from Region 2, 16 percent from Region 3, and two percent who preferred not to answer. In contrast, the AIS membership at the time of the survey comprised 44 percent of members from Region 1, 30 percent from Region 2, and 26 percent from Region 3. Thus, our survey data underrepresented Region 3 members (particularly those outside Australia and New Zealand). We made a concerted effort to reach out to members from Region 3 through the assistance of the Region 3 representative and other channels. We

---

received feedback that language barriers may have contributed to this lack of representation. We confirmed as much in our results when those who did respond to the survey from Region 3 reported that language differences could contribute to why they felt excluded.

3.3 Data Analysis

We analyzed the quantitative data using descriptive statistics. We qualitatively analyzed responses to open-ended questions about inclusion, exclusion, and recommendations coded them into AIS reasons (e.g., structural), AIS communities (e.g., related to SIGs, chapters, and colleges), and membership (e.g., actions of individual members leading to feelings of inclusion or exclusion). As we examined our quantitative and qualitative data from the survey, we triangulated these results with insights gained from other activities in which we sought to learn more D&I issues in our discipline. At AMCIS 2017, we conducted a professional development symposium in which we listened and captured stories and feedback of exclusion and inclusion from participants in a series of smaller focus groups (Carter et al., 2017). We shared progress about the task force among SIG Social Inclusion members at a research workshop in Seoul in 2017, and we solicited feedback from various stakeholders, such as researchers in the social inclusion domain and AIS council members. We also examined how other professional organizations address issues of D&I. Through the insights from the survey, our review of other professional organizations, and the many other outlets for individuals to share their input on D&I, we developed our findings and recommendations.

One should note that individuals who already engaged and participated in the AIS completed the D&I survey and, thus, influenced the results, which their response to an emailed invitation from the AIS and its communities that we describe above evidences. Therefore, our results may over-report inclusion given the challenges in reaching people who are or feel excluded, which suggests caution when interpreting the findings. Recognizing the limitations with surveys as we note above, we also considered the results of the survey in light of the experiences from individuals in focus groups or other forums in which individuals expressed feelings of inclusion and exclusion.

4 Findings

We identified insights related to two primary themes from our data: 1) predominant reasons why individuals feel included or excluded and 2) the role of organizational structures in the AIS that affect these feelings.

4.1 Reasons Why Individuals Perceive Social Inclusion or Exclusion

4.1.1 Key Insight: Geographic Effects related to Social Inclusion or Exclusion

As we explain in Section 2 and Appendix A, the AIS has deliberately focused on creating opportunities for its members regardless of geographic location through defining world regions and geographic-based chapters. Many policies and structures in the AIS ensure representation from across the three world regions as identified by the AIS. Yet, even with this effort to provide opportunities for individuals regardless of geography, perceptions of exclusion remain. Even in each of the AIS world regions, we found great disparity. Indeed, respondents reported that some members of the scholarly community perceive certain countries or regions to be “more important” than others. Respondents noted:

*The problem is of distance—I feel like most of the AIS groups and activities (other than conferences) are US centric.*

*[The AIS needs] greater sensitivity to the experience of those from the unimportant countries in the world.*

Using the survey results, we performed a one-way ANOVA to identify differences in AIS members’ perceived inclusion and exclusion among the three world regions. While we found no significant difference in perceived inclusion among the regions, perceived exclusion was highest among respondents in Region 3 with significant differences between Region 3 respondents and respondents in Regions 1 and 2. In examining our results, we refrain from drawing more conclusions than the data allows. Our survey did not represent Region 3 as well as the other two regions, and respondents from Region 3 largely came from Australia and New Zealand. Thus, the survey did not represent other large populations from Region 3, such as Chinese scholars, well. As such, we need to further explore the inclusion experiences of
members in this region and the need for efforts to engage members in these areas. Moreover, governmental travel restrictions, such as restrictions travelling to the United States and restrictions travelling from certain countries, significantly impact conference attendance. As one respondent said:

*For the past two years, I was not able to attend AMCIS because my US VISA was not issued. I was upset as apparently, AIS does not care about people like me. We pay the annual fee but we cannot attend the conferences. I’d suggest the AMCISs be held in Mexico or Canada so that ALL members could attend.*

The AIS has tried to make it possible for information systems scholars to participate in the organization through developing official AIS communities, such as SIGs, chapters, and colleges. AIS communities play an important role in social inclusion by uniting AIS members with similarities in research interests, geography, and professional roles. Chapters constitute one means for members to identify other IS scholars based on geographic proximity. Yet, our survey results suggest that AIS members perceive inclusion in AIS communities differently across the world regions. Using one-way ANOVA to explore differences in perceptions of inclusion in AIS communities, respondents from Region 1 expressed a significantly higher level of perceived community inclusion compared to respondents in Region 2. Region 1 respondents also expressed the highest level of perceived community support, which was significantly higher than the average level that respondents in Region 2 expressed. We found no significant differences (higher or lower) between respondents from Region 1 and respondents from Regions 1 and 2.

**4.1.2 Key Insight: Academic Rank Affects Social Inclusion or Exclusion**

Survey respondents identified their current academic rank using titles ranging from doctoral student to professor emeritus, consistent with those used across the three AIS regions. Individuals could also self-describe their role or identify as a non-academic. For academics, we grouped the twelve rank categories into the following four career stages: 1) student or post-doctorate, 2) early career, 3) mid-career, and 4) late career. Among our respondents, 57 identified as a student or post-doctorate, 82 as early career, 101 as mid-career, and 86 as late career. Using one-way ANOVA, we learned respondents in the late career stage reported higher perceptions of inclusion compared to respondents in the early career stage. When we examined social inclusion in AIS communities by career stage, we found additional differences. Across multiple measures related to inclusion, the mean values were significantly higher for late career respondents compared to doctoral students/post-docs and early career respondents.

Individuals who more established in their career have had time to develop their social networks. They have found opportunities to engage and often did not have recent experiences in which they felt excluded in the AIS. In examining the responses to the question “Can you think of a time when you felt excluded from the AIS and its communities? Please describe the event and why you think you were excluded”, respondents in the late career stage most prevalently responded with “no” or “not at all”. One respondent in late career stated: “In many ways, I already have too much involvement”.

In addition to the survey results, we also noted based on AIS membership data that, as a group, doctoral students are vulnerable to attrition. In any given month, approximately 65 percent of AIS members renew their membership; however, a much smaller percentage of doctoral students renew their membership. Many doctoral students choose to become members only if they attend an AIS conference. If students cannot attend an AIS conference the following year or have a negative experience at the conference, their membership may lapse, which likely poses barriers to their inclusion in the future. Additionally, doctoral students attending their first AIS international conference inherently confront feelings of academic and social insecurity. Some techniques that the AIS intends to foster a welcoming environment, such as identifying doctoral consortium participants, can have unintended consequences as one doctoral student described:

*Having doctoral consortium and new member tag did little to enhance my image, and wasn’t really a badge of honor, it was more of a signal that I’m a desperate newbie and a warning for the well matured academic of oncoming desperato.*

---

[In surveying professional organizations, Rossell, Wasserman, and Kerr (2018) found that the average membership renewal rate was 78 percent in 2018 with a median of 80 percent. The AIS has a lower renewal rate for members compared to other professional associations, which represents another reason why we can gain value from understanding issues associated with diversity and inclusion.](#)
The way in which individuals receive feedback (such as based on academic rank) can also create negative feelings that may continue to persist long after the event as one doctoral student described:

> At ICIS 2012 I presented a paper at a round table discussion. During the discussion of my paper an individual at the table was argumentative about some aspects of the content. As I was explaining my perspectives in the paper he said “well, you’re just a doctoral student so you really don’t know what you’re saying”. I felt embarrassed and disrespected. In that moment I felt like I didn’t belong there.

At the same time, many participants saw doctoral consortiums and the doctoral corner as safe spaces from which students can acculturate into a conference’s larger social dynamics. Some doctoral students noted that they experienced positive feelings of inclusion at AIS events and activities, such as one participant in the ICIS doctoral consortium who said: “[The] doctoral consortium [made me feel included]. I cannot thank the members enough for making me feel incredibly welcome and useful.”.

Yet, these positive experiences must persist as these students transition to junior faculty roles for them to continue to engage with the AIS throughout their professional life. Sometimes, our efforts to focus on doctoral students leave members feeling alone as they transition to a junior faculty role. In answering a question to recall a time in which participants felt included in the AIS, one respondent said: “[I felt included] as a doctoral student. After that, you are totally on your own.”.

Many doctoral students also choose not to renew their membership when moving into faculty roles. One reason for the drop in membership may lie in students who transition to departments that do not fund membership in professional associations. Moreover, faculty may also perceive less inclusion as they transition from a doctoral student at a research-oriented institution to a faculty member at a less research-oriented institution. As one respondent said: “I felt more included as a doctoral student than I do now as faculty at a school where research is not the main focus.”

### Key Insight: Barriers to Social and Human Capital Affect Perceived Exclusion

Respondents most often mentioned exclusion from elite, closed networks (“the in-crowd, “the establishment”), language and geographic barriers, and research focus for driving perceived exclusion in the AIS.

An individual’s professional network begins with the doctoral program and doctoral advisor one chooses. Early in their interactions with the AIS, some members felt closed out of networks and participation due to their academic affiliation or their doctoral advisor. As one doctoral student noted: “Give doctoral students a chance to be active participant in the AIS community irrespective of who their advisers are and irrespective of their university!”.

We found exclusion from powerful social networks in the AIS a common theme in our qualitative comments. Respondents recounted experiences in which others turned them away from volunteer positions, overlooked them for participation on panels despite their expertise, exclusive editorial boards and conference organizing committees, and social events at conferences being restricted to invitation only. One respondent recounted:

> I have proven track record in certain areas…. Yet, when panels are selected, members of the “club”, even when they have limited experience, they are selected as panelists. It is always the same people no matter the topic. On a positive note, I have seen this slowly changing.

Others perceived closed social networks as arising due to a combination of factors, such as university affiliation, gender, academic rank, and personal connections. One individual shared the following experience:

> I think this is a problem for anybody in the IS field who is not a male graduate from a fancy university, backed by a powerful male mentor. I’ve also noticed that, in AIS events, I get treated with much more respect by everyone if the same discussion includes a well-known senior male colleague whom I happen to know and who somehow signals that he approves what I say. As if a female associate professor needed a reputable male professor’s enforcement before she’s listened to! Crazy!

Respondents mentioned geographic and language barriers as another top concern that relates to human capital. Members from countries lower on human development indices, particularly in Region 2, emphasized exclusion on the basis of socio-economic factors. Respondents perceived conference
attendance as important but prohibitively expensive for many, including individuals in Region 1 and Region 2 and students and junior faculty from all regions. As one doctoral student shared:

> Coming from a third world or developing country, the disadvantages associated with having to pay for simple things like a meal in a restaurant are prohibitively expensive. Therefore, one gives the appearance of being either anti-social or a “skin flint” when in the company of first world resident attendees. The result is that one feels pressured to withdraw.

Members from Region 3 felt a stronger sense of exclusion based on language, particularly during consortia and interactive program sessions. Members in Region 3 also perceived exclusion based on their country of origin/employment more so than members in other regions. One respondent said:

> Sometimes I also find that international scholars speak very fast in English and faster than I can fully comprehend. Sometimes they use idioms that are really hard to me to understand. So I cannot continue the conversation since I don’t know why they are laughing. Other international scholars join us and I think I can directly go find another person to chat.

Respondents also highlighted institutional differences between geographic regions and, in particular, U.S. schools’ dominance. These differences included tenure and promotion models, academic calendars, job titles, research interest, and business school influence compared to informatics, information science, engineering, and other types of schools. One respondent explained:

> AIS is dominated by US researchers, meaning US tenure system, US research problems etc. Even naming US as “region 1” is insulting to the rest of us. So the event I mention is every time online that I interact with AIS conferences, systems etc, everything is so “anglo-saxon”.

Respondents also frequently cited research topic, focus, and methodology as reasons for exclusion, which they often linked to geography. Different parts of the world welcome different research traditions and topics more than others. Geography has an impact due to not only physical distance to conferences or AIS events but also differences in research methods, research topics, preferred journals, and social networks. As one member commented:

> My research area is less popular in the US than it is in Europe and hence I feel excluded. I do not take interest in many papers which appear in top AIS journals and consider them more business than IS. I think there is an unjustified bias against design science and too many papers look alike.

These factors are tightly connected. Geography—either where a person received academic training or historical and cultural forces in the country/region that have shaped a dominant research tradition—often influences one’s research focus. Language differences further reinforce boundaries around research focus, which makes it difficult to isolate a root cause. Thus, respondents to our survey noted a variety of barriers to social and human capital that made them feel excluded.

### 4.2 Role of AIS Structures in Feelings of Inclusion and Exclusion: SIGs, Chapters, & Colleges

#### 4.2.1 Key Insight: AIS Community Participation Increases Perceived Inclusion

We found that involvement in AIS SIGs, chapters, and colleges was positively related to a sense of belonging, as measured by perceptions of social inclusion, insider status, organizational support, and community involvement (See Appendix B for measurement). Increasing involvement can take many forms: from becoming a member in an AIS community to serving as one of its leaders and participating in a community’s events. More than a third of the qualitative comments that related to experiences of inclusion mentioned AIS communities, while few comments mentioned communities when describing instances of exclusion. Communities that provide affirmation and a sense of welcome, particularly experiences of inclusion early in a person’s involvement with that community, may be especially important as one respondent described:

> I feel most included when I attend SIG meetings.... For junior academics, SIGs are the best way to network and become more involved in AIS and its communities. We should be encouraging more participation in the SIGs, or at least those which focus on including more members....
In particular, this sense of belonging provides much value in creating conditions where members feel comfortable sharing their work and getting friendly feedback as one respondent described:

> When I gave a presentation about my doctoral research at a smaller AIS event (not an AMCIS), the audience was wonderful. They asked good questions and offered a lot of helpful suggestions. I felt welcomed, respected, and supported.

AIS communities help support members develop positive relationships in their events which may persist even as they attend other AIS activities as one respondent mentioned:

> I have participated in SIGASYS, SIGSEC and SIGPSY pre-ICIS workshops and found these to be very inclusive and beneficial in getting feedback on research I am working on. Generally, I find these people to be the “birds of feather” that I associate with [at] ICIS.

Many qualitative comments provided further support for the importance of inclusion at the community level such that respondents described various communities as welcoming. In particular, they described community events as critical touchpoints for inclusion and exclusion. Interaction in events such as paper sessions, professional development symposia, and social events provide opportunities for networking, particularly for new faculty and new AIS members. These events foster a sense of belonging in the AIS. Members felt that other members welcome and value their participation and presence at these events and that they provide a sense of participation that the larger AIS conferences and related social events cannot provide. Such events also help draw people into leadership roles that serve as powerful conduits for inclusive experiences as one respondent said: “[I felt most included] at the SIG level. I’ve seen a lot of outreach to myself and others for engaging in workshops, review opportunities and leadership roles.”.

Those in leadership roles in AIS communities have an important role as they can develop and foster inclusion among their members as one respondent said:

> As a new SIG-[redacted] member...many leaders of the group and existing members were very welcoming. Since then I have corresponded with many members and was even asked to help with the latest round of elections.

AIS community leaders can foster inclusion by asking people to participate. Many members want to participate in their community or the AIS at large, but they do not know how to do so. As one member noted:

> [Inclusion can be enhanced by] personal contact from AIS leaders in SIGs, chapters, colleges etc. when they need help with particular tasks. This would enable regular members to become more actively involved with AIS and would open more paths for inclusion.

Though respondents primarily mentioned AIS communities in association with perceptions of inclusion, some recounted experiences of exclusion. Several noted that they signed up for a SIG or chapter and never heard from them. Others recounted experiences where they were turned away from events or volunteer tasks. These one-off experiences can have a lasting effect that deters members from further attempting to engage with a community.

1.1.2 Key Insight: Inclusion is Stronger at the AIS Community Level Compared to the AIS

Our quantitative data show that individuals’ perceived inclusion at the community level (i.e., in SIGs, chapters, and colleges) was higher than their perceived inclusion at the organizational level (i.e., AIS). The qualitative data also reflected this finding. One respondent said: “I think that many of the individual SIGS are welcoming to individuals of diverse backgrounds and opinions. I just have less confidence in the AIS organization as a whole.”.

Smaller community gatherings’ more intimate nature better allows members to form interpersonal connections compared to larger gatherings. As one AIS member described, these connections through AIS communities that enable individuals to feel included:

> Inclusion has always been because of the work of ordinary members in the SIGs and on the ground at conferences. Inclusion occurs not because of the institutional structures of the AIS but because of individual efforts on the ground to welcome and socialize with members. AIS as an organization needs to do more.

Given AIS communities’ nature, we do not find these observations surprising. Settings in which people share common research interests or geographic and cultural similarities will likely produce feelings of
inclusiveness since conversation naturally revolves around topics of shared interest. We consider these dynamics as we reflect on the role of organizational structures and leadership in fostering inclusion in the AIS.

While perceived inclusion at the community level was higher than at the organizational level, we also found a strong correlation between inclusion at the community and organizational level. This finding suggests that greater involvement in AIS communities may foster a sense of inclusion in the AIS as a whole. The correlation between perceived inclusion at the community and organizational level was particularly high for respondents who reported serving in a leadership role in their AIS community. The AIS council regularly communicates with and hosts meetings for AIS community leaders at conferences; these meetings provide leaders with face-to-face engagement with AIS council members, which may help foster a sense of inclusion in the AIS. Such interactions may underscore ways that organizational structures create opportunities for people to feel included and the importance of rotating leadership among a community’s members.

The AIS encourages new members to find an AIS community to help them feel connected to the organization. However, several respondents recounted negative influences from advisors and colleagues on their perceptions of AIS communities. For example, some said:

I feel most included when I attend SIG meetings. Strangely, my PhD adviser believes “SIGs are a waste of time”. For junior academics, SIGs are the best way to network and become more involved in AIS and its communities. We should be encouraging more participation in the SIGs or at least those which focus on included [sic] more members, rather than those which act like gatekeepers.

[Inclusion can be enhanced by] more information about the SIGs, particularly at the university-level. I didn’t join because my colleagues didn’t join; plus, as a student I was told that I didn’t have the time for it. Now as an assistant professor I have even less time so I assume that I shouldn’t invest it in the SIGs.

These comments speak to a need to leverage other organizational structures and roles to build awareness about the value of AIS communities for D&I. The AIS council; doctoral consortiums and other programs; and the SIGs, chapters, and colleges themselves may need to work on messaging that enhances new members’ awareness of AIS communities’ value—from developing a sense of belonging to professional socialization, networking benefits, and scholarly feedback.

5 Recommendations

For D&I to feel achievable, we advocate a shift in perspective. By their nature, humans seek belonging, and, when we draw circles around the groups to which we belong, we exclude individuals outside those groups, often unintentionally (Tajfel & Turner, 1979). Because exclusion is somewhat inevitable, rather than viewing D&I as a problem, we view D&I as a practice—a regular exercise that enhances ability. The practice of social inclusion constitutes an ongoing process of self-reflection and cultivating a mindset in which one not only accepts but also values differences.

Consequently, we developed several recommendations with a practice-based mindset. We drew them from interactions with AIS members, benchmark best practices from other associations, and our survey results in order to improve D&I in our discipline. As we state in Section 1, we intentionally shape our recommendations to be practical, actionable, and achievable—“easy wins”. As such, they do not represent a comprehensive agenda for change. Rather, they are actionable practices we can begin to develop for a more socially inclusive IS scholarly community. We expect this list to grow, contract, and change over time as the AIS community develops its inclusion practices.

5.1 Promoting Diversity and Inclusion through Personal Practices

Social inclusion requires push and pull. At times, individuals may be pulled into opportunities through invitations to participate, a welcoming atmosphere, and support for individual needs. At the same time, individual agency means we need not helplessly wait to be pulled into social exchange. We must also “push” ourselves to engage in AIS activities by volunteering to participate, welcoming others to engage with us, and requesting support for our needs. Some people attribute their exclusion and inclusion experiences to their individual agency. In other words, they attribute times in which they felt included to their working on being included and engaging with others. Likewise, they attribute times in which they felt
excluded to their not making sufficient effort on being engaged. We would like everyone to feel empowered to change their experiences of inclusion. At the same time, we must also recognize that not everyone has the same level of agency—actual or perceived—in changing how included they feel.

Despite differences in individual agency, we believe all members should seek opportunities to “raise their hand” and ask to participate. Some opportunities require less effort and financial means, such as voting in AIS council or community elections, joining an AIS community, or nominating a fellow member (or oneself) for an award or leadership position. Opportunities that require more effort include proposing a panel at a conference, running for an AIS or community leadership position, serving on an AIS committee, or submitting a bid for a local, regional, or international conference. For support in finding the right opportunities to engage, reach out to one of the AIS regional representatives or council members, such as the vice president of membership, for information about committees, conference bids, and other ways to engage.

Other concerns that members expressed in our survey included feeling like an outsider due to geography, academic rank, university affiliation, language, or other attributes. For those members who have not joined an AIS community, doing so may constitute one opportunity to find others in the association with similar interests or concerns. AIS chapters allow IS scholars to connect with one another based on geographic proximity. Many AIS chapters host conferences in their geographic region that cost less than the larger international conferences and enable scholars to communicate and engage with others in their native language. Scholars can review the AIS communities website to identify their nearest chapter and contact the leadership to learn how to get involved. If scholars cannot find a nearby chapter, they can consider creating one. As few as ten AIS members can complete a straightforward process to develop their own regional chapter.

Further, members who have made progress in finding ways to engage with the larger AIS or an AIS community could identify opportunities to “pull” in others who may feel excluded. Consider how to promote broader participation when proposing panels, soliciting reviewers for conference or journal publications, or searching for individuals who may participate in roles in AIS communities, conferences, or committees. Rather than asking close colleagues or friends, reach more broadly for individuals who can represent different research traditions, different research topics, and regions of the world that differ both geographically and economically. Look for opportunities to give unknown members a chance to succeed and demonstrate their abilities and viewpoints.

We all make choices each day that can promote D&I. Broadening the research we cite to ensure that we present different perspectives; write papers with diverse authors in terms of gender, geography, and social groups; and appreciate different types of research and research traditions can promote inclusion and diversity among IS scholars. Having a meaningful conversation with a fellow scholar from a different research tradition or point of view can broaden how we view the discipline. Responding to an email from an IS scholar who cannot attend a conference but needs advice on a topic in our area of expertise can promote feelings of inclusion for others. These small actions can be practices that help others feel included in the AIS.

By being more mindful of the diversity in our discipline, we can better consider others in both our discipline and classrooms. We can encourage our students to mindfully consider social inclusion and global phenomena (Trauth, 2017b). We can develop awareness of our personal in-group biases that may affect not only how we engage with students and colleagues but also how we conduct our research. For example, we can make different choices in how we collect demographic information in our research related to gender, sexual orientation, and ethnicity that helps our research participants feel recognized and included.

We summarize practices based on the above discussion that we can use to promote D&I as follows:

- Seek opportunities to participate in the AIS based on your means, abilities, and goals.
- Join a community with a shared research interest, geography, or professional role that can offer support based on your needs.
- Identify others outside of your typical network to engage in activities, such as panel participation, reviewing, and leadership roles.

---

6 For a list of AIS council members and their contact information, see https://aisnet.org/general/custom.asp?page=AISCouncil
7 See http://genderedinnovations.stanford.edu/terms.html for best practices collecting demographic data
• Recognize the diversity among members of the AIS based on factors such as geography, academic rank, academic institutions, and social groups.
• Be mindful of opportunities to promote inclusion in the AIS in the classroom, research, and service.

### 5.2 Promoting Diversity and Inclusion through AIS Structures

The leadership role constitutes a key structure that can influence D&I in organizations. While the AIS council sets policies for the overall organization, many other leaders in our association exist. Conference chairs, program chairs, track chairs, minitrack chairs, journal editors, senior editors, associate editors, and AIS community leaders constitute just a handful of the many ways in which AIS members engage in leadership roles.

From our survey, we found that AIS communities serve as gateways for social inclusion in the AIS. Thus, we encourage AIS community leaders in particular to consider ways to increase member engagement, particularly among members who may not be deeply embedded in the community such as new members, doctoral students, and underrepresented faculty. However, leaders alone do not have the responsibility to implement these recommendations. Community members also play a key role in implementing and fostering many of these recommendations and holding leadership accountable for D&I. Thus, we encourage all AIS members to more purposefully support diversity and social inclusion, which begins with carefully considering the following recommendations related to leadership and community roles.

#### 5.2.1 Reach across Rank and Faculty Appointment

Academic ranks, and one’s ability to achieve different academic ranks, vary throughout the world, and these differences can sometimes create opportunities for exclusion. Various AIS standing committees and volunteer positions provide sufficient opportunities to engage individuals across academic ranks—from doctoral students to junior faculty to clinical faculty and beyond. One way to help balance the service workload in the association involves ensuring that all members despite their academic rank can openly participate in various activities. For instance, as one best practice that demonstrates an openness to diversity, the AoM’s Diversity and Inclusion Committee de-emphasizes member affiliations, academic rank, and member type at activities such as conferences, elections, or other communications.

Clinical faculty, faculty at teaching-oriented schools and universities, or individuals who simply prefer teaching often feel excluded at conferences or in the AIS community. Other AIS members do not know about the many ways in which they can engage with the association, and they feel left out. At the same time, others feel overburdened because they have participated in so many activities. We strengthen the AIS when we recognize the value of teaching-oriented faculty and their contributions to the discipline and to pedagogical research and when we actively seek to engage them in the organization.

#### 5.2.2 Manage the Pipeline

The inclusion of members in early career stages represents one issue that cuts across our findings related to individuals and organizational structures. We need to pay careful attention to the member pipeline not only for D&I but also for the organization’s health. Thus, we recommend AIS communities pay particular attention to drawing in new members (particularly individuals who have just entered the IS discipline). Individuals can articulate the value of their community by answering: “Why should I join this community?” on the AIS website or their community website and social media sites. Connection to people with similar interests, publication opportunities, research audience, friendship, and other community-specific reasons enhances the value one provides and encourages greater engagement. Seek out new members by ensuring community members participate in AIS new member activities at conferences. Once one has their interest, one can orient new members by sending welcome emails, hosting a new member meeting, or helping newcomers connect with others in the community via social media or social events.

Consider hosting events specifically for members in early career stages. Several respondents to our survey commented that doctoral consortiums at various conferences contributed to their sense of inclusion in the AIS and, particularly, in helping them develop relationships with more senior scholars. Consider ways to recreate this experience at the community level. While early career experiences are important for D&I, do not neglect mid-career faculty; they often report feeling left out because institutions assume they have “figured it out”, which can cause them lack the motivation to engage (Petter, Richardson, & Randolph, 2018). Consider opportunities for mid-career faculty to not only provide but also
receive mentoring. Provide opportunities to develop new research collaborations. For example, research workshops can encourage encounters that might develop into collaborations.

5.2.3 Encourage Ownership

Psychological ownership—the feeling that one owns something—represents a powerful way to develop inclusion (Avey, Avolio, Crossley, & Luthans, 2009). One can cultivate psychological ownership toward a community in various ways, but the easiest perhaps involves simply asking. Ask members to own activities or projects and become involved. Ask for members’ input. Consider surveying your members or creating community discussion boards or listservs. Make your leadership team accessible to members as a way to invite member engagement. Mentor junior colleagues on how to manage and lead your community. Get them involved in planning activities and events commensurate with the time they can devote pre-tenure. In doing so, we can avoid asking the same people to do the same things year after year. Asking the same people can harm AIS communities because people get burned out and, thus, they do not transfer knowledge. It also discourages other members from participating and diminishes inclusion and engagement.

Another way to cultivate ownership involves considering a role in one’s leadership team that specifically focuses on diversity, inclusion, and member engagement. No one-size-fits-all D&I strategy exists. What it means to enhance diversity will differ across AIS communities, particularly because SIGs tend to focus on shared research interests, chapters on geography, and colleges on professional roles. We encourage the leaders of each community to engage with their membership and identify D&I goals specific to their community. A D&I statement represents a good place to articulate these values and goals, which leaders can adopt as part of their community’s organizing documents.

5.2.4 Enhance Member Visibility

Respondents to our survey and participants in our focus groups noted in various ways how exclusion does not arise from intentional acts but results from feeling invisible. Organizational structures can play a key role in helping to elevate the visibility of AIS members, particularly through recognition and awards. Celebrate member successes such as publications, best paper awards, promotions, and appointments. For example, the AIS Women’s Network distributes a newsletter that features a section on user-submitted news. The network encourages all members to submit news about “anything that is important in your life”—from professional awards and promotions to personal celebrations related to family.

Communities can also highlight the contributions of people who volunteer year after year and those who have just begun to engage with the community. Consider giving service awards to members, perhaps for goals tied to D&I. This activity yields multiple benefits. For example, the designation of outstanding AIS community relies on a point system, and each award given by your community earns points toward designation as an outstanding community. You can also raise the visibility of community members at the organizational level. Nominate people in your AIS community for AIS awards, which helps them feel visible and appreciated for their work in the AIS.

5.2.5 Host Inclusive Events

Community events, such as workshops, conferences, and symposia, represent important avenues for inclusion as well. Several of our findings highlight ways in which these events can positively and negatively shape a person’s sense of inclusion. Thus, one needs to approach these organizational structures with an eye for inclusion. Common concerns expressed across academic rank, geography, and other groups included the economics of attending (both international and regional) conferences. Since conferences rotate across regions, more people can attend them when the organization holds them in a geographically close or more affordable location relative to a member’s location. Yet, in the years in which the organization holds a conference in a location far from members, the cost to attend can be prohibitive. Thus, we need continued concern for making conferences affordable and accessible to those across regions of the globe with differing economic circumstances. Doctoral students have an opportunity to volunteer at ICIS and selected regional conferences, which can reduce some of their financial burden.

---

8 Readers can find diversity and inclusion survey items in Appendix B. Consider including them when you survey your membership.

However, no other formal practices to help others who struggle with the economics of attending international and regional conferences exist. Try to rotate the location of events, even in regional chapters. Consider ways to use technology to enable individuals who cannot attend in person to participate (see Appendix A in which we discuss the AIS’s consideration of virtual conferences). Host online events such as webinars or include options to live stream or watch events later for members who cannot physically travel to an event. The AIS provides support for these services. One can also reduce travel expenses by hosting events concurrent with AIS conferences. In this way, one can encourage new members to attend and become part of one’s community and allow existing members to meet in person. Further, by hosting events alongside AIS conferences, one can host joint events with other AIS communities or with other research groups of similar interests, which can create bridges that broaden a person’s social network and help them feel more included in the broader AIS.

One can create more inclusive events by including diverse event leaders, panelists, and even attendees. Thus, when appropriate, ensure events represent different ethnicities, genders, regions, research traditions, and so on. Recognizing the gender disparity issues in science, technology, engineering, and mathematics (STEM) disciplines, renowned economist, Owen Barder has made a public pledge: “I won’t serve on a panel of two people or more unless there is at least one woman on the panel, not included in the chair” (https://www.owen.org/pledge). Nearly 2,000 academics have signed on to this pledge, including AIS members. Personal and even community-wide policies such as this one may help individuals leverage organizational structures such as leadership roles and panel positions to promote a more diverse and inclusive community. Consider the diversity categories that pertain most to your community and create community standards or personal pledges to foster greater D&I in those categories in your community.

5.2.6 Summary

We can do much to encourage D&I through leadership and community membership roles. The following list summarizes actions that AIS community leaders and members can consider:

- Recruit members across ranks, including both clinical and tenure tracks.
- Draw in and communicate with new members through the community website, conference events, and community-level communication.
- Encourage connections among newer or early-career members (i.e., doctoral students or junior faculty) with more-established members.
- Create mechanisms for community members to volunteer or engage in decision making.
- Promote community members’ achievements through newsletters or emails.
- Offer awards for community members with outstanding achievements and efforts, particularly members who have provided a significant service to the community.
- Nominate community members for AIS awards.
- Create inclusive events for members with particular consideration to minimize needs for travel via using virtual conferences or webinars.
- Think more broadly about those who participate in AIS community events and set goals to actively promote diversity.

As individuals perceive themselves as part of a larger community, our association grows with new and diverse ideas and viewpoints. If individuals do not feel included in the AIS or its structures (such as AIS communities), then they are less likely to attend conferences or maintain their membership. By engaging in practices to promote D&I, we can improve the AIS membership renewal rates to better concur with other professional associations (Rossell et al., 2018). By increasing the number and diversity of voices, we can better achieve the AIS’s mission to serve “society through the advancement of knowledge and the promotion of excellence in the practice and study of information systems” (AIS, n.d.-b).

---

10 See https://aisnet.org/page/AdmBullCommWebinars
6 Concluding Thoughts

The AIS created the AIS Task Force on Social Inclusion in 2017 to identify how and why people feel excluded from the AIS and to offer recommendations to encourage full participation by all its members in the organization. While the AIS has policies in place to provide some degree of D&I, particularly as it relates to geography, we provide a set of practices for AIS leaders, AIS communities, and individual members to implement to create a more inclusive organization. Our findings highlight the importance of AIS communities—its SIGs, chapters, and colleges—as the most important way to foster greater inclusion among the membership.

We note that many challenges in the larger academic discipline and in the AIS that we did not discuss in our findings or recommendations for practices exist. For example, individuals have expressed concerns over the lack of intellectual diversity, preferences towards certain research methods, or cliques in the discipline or its subdisciplines that appear to promote some people’s research while excluding others. Rejections commonly occur in our disciplines at conferences and journals due to academia’s nature. It can be difficult to separate instances in which we face rejection due to limitations in our research versus instances in which we face rejection due to geography, academic rank, academic affiliation, or belonging to the right “in group”.

Concern for D&I can create difficult choices that exclude some in an attempt to include others. For example, the choice to rotate the ICIS to each of the world regions makes the conference financially prohibitive for many members to attend each year; however, the change makes it more financially accessible for some members in certain years. No easy answers to these issues that AIS members have raised related to diversity, inclusion, and exclusion exist. We readily admit that we do not have all of the answers to promote D&I in the AIS or IS discipline, but, by engaging in D&I practices, we can make progress and understand others’ points of view.

Based on our extensive efforts to communicate with members about issues of inclusion and exclusion, we recognize this topic’s polarizing nature. For some, D&I brings up feelings of pain, memories in which they felt excluded, and strong emotions about past experiences. Others feel threatened by inclusion based on the belief that we participate in a zero-sum game (i.e., only so many papers can appear in top journals, only a select few can be accepted at ICIS, only a limited number of members can hold leadership positions in the AIS, only a few people get awards each year). Others still perceive themselves as part of the “in group” in the association and fail to understand or acknowledge the challenges that AIS members who perceive themselves on the “outside” or the “fringe” of AIS experience. Finally, some never feel excluded because they have outgoing personalities and have never met a stranger. Individuals may have strong emotions or no emotions toward D&I for many different reasons.

We acknowledge that each person reading this paper will approach the recommendations from the perspective of their own experiences. Thoughtful minds can arrive at different conclusions, but we believe we can make healthy progress by encouraging a dialogue in our discipline that focuses on empathy, civility, and respect. We envision a future for the AIS in which we promote new ideas and innovative through including more and different voices in the conversation about the AIS and IS discipline. To have this exciting future, we all have responsibility for D&I. The AIS has a mission to serve society through IS research, practice, and education. We cannot serve society when we ignore or exclude groups that want to contribute to this mission.

7 Acknowledgments

We thank the Academy of Management’s Diversity and Inclusion Theme Committee for sharing its survey items. Their work inspires us. Special thanks to current and past AoM D&ITC leaders for their support: Drs. Isabel Metz, Michalle Mor Barak, Christina Sue-Chan, and Quinetta Roberson. We are also indebted to AIS council members and executive staff for their help in disseminating the survey. We are especially appreciative to Ryan Wright, Amanda Bureau, and Brook Pritchett. Thanks also to the many AIS community leaders who encouraged their members to take the survey. We also thank Dr. Olivera Marjanovic for her contributions to the task force.
Appendix A: Efforts Made by AIS to Encourage Diversity and Inclusion

The AIS has many practices to offer opportunities for its members to participate. Table A1 highlights several activities (including many formal policies) that the AIS has adopted to encourage diversity and social inclusion.

<table>
<thead>
<tr>
<th>Activity type</th>
<th>Inclusion focus</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Awards</td>
<td>Geography</td>
<td>At least one AIS Fellow award winner must be granted from each AIS region.</td>
</tr>
<tr>
<td>Awards</td>
<td>Academic rank</td>
<td>Awards are available for members at various stages of their career (e.g., doctoral student service award, early career award).</td>
</tr>
</tbody>
</table>
| Conferences   | Geography       | • The location of the premier conference, International Conference on Information Systems (ICIS), rotates to each of the three regions to help conferences be more geographically accessible to members across regions.  
• AMCIS rotates across different areas in the Americas to support geographically dispersed members in Region 1.  
• AIS endorses and affiliates with ECIS and PACIS, along with its ownership of AMCIS, to enable members to have a regional conference to attend.  
• Many AIS chapters offer conferences to enable members to attend events, present research, and connect with members locally. |
| Conferences   | Geography, research | • In the policy for selecting sites for ICIS, part of the evaluation criteria for the program chairs is that there is diversity within the team in terms of research perspectives and representation from the AIS’s three regions.  
• Track chairs and associate editors are often selected to provide diversity in terms of geography and gender; panels are also selected based on diversity in terms of opinions, backgrounds and geographic regions. |
| Conferences   | Research, academic rank | AMCIS is an inclusive conference in which the bulk of the program is designed by the membership through open calls for tracks and minitracks in which any member, regardless of academic rank, can propose a track or minitrack. |
| Education     | Geography       | Eduglopedia.org, sponsored by the AIS, contains educational resources from scholars around the globe. |
| Journals      | Geography, Language | The AIS eLibrary offers a collection of journals and conference proceedings from various regions, with some published in languages other than English. |
| Leadership    | Geography       | • The president role in the AIS council rotates among the three AIS regions.  
• Each AIS region has a representative on AIS council.  
• Most AIS standing committees must have representation across the three AIS regions. |
| Membership    | Academic rank   | The AIS offers discounted memberships to doctoral students and retired academics. |
| Membership    | Economic        | Membership rates vary based on the United Nation’s economic development index. |
| Membership    | Family          | Based on responses and inquiries from faculty members, the AIS has examined options to offer childcare at AMCIS and tested the interest in this service among conference attendees. |
| Membership    | Gender          | The AIS has sponsored a task force on support for women faculty members. |
| Membership    | Gender          | Members have non-binary options for expressing their gender identity on member surveys and online profiles. |
| Membership    | Geography, research | The AIS allows members to develop communities based on geographic location, shared research interests, or shared professional interests. |

In addition to the activities above, the AIS has also considered other options to address issues that relate to diversity and inclusion. We discuss two initiatives below that the AIS has explored but not pursued for various reasons.
Virtual Conferences

Members have often asked for the ability to attend and present in AIS conferences virtually given the challenges associated with the costs and logistics of travelling to conferences. Many members feel excluded from AIS conferences in certain locations due to issues associated with obtaining visas for travel or issues that prevent them from attending due to the local customs related to sexual orientation or religion.

Some chapters, such as the Latin American and Caribbean AIS chapter, have successfully offered virtual conferences; however, scaling up a larger regional or international conference to offer a virtual conference option has been difficult. In 2015 to 2017, a task force examined possibilities for offering virtual options for presentation and attendance at conferences (specifically for AMCIS and ICIS). The task force performed a pilot virtual conference with a pre-ICIS workshop in 2016, which revealed several challenges associated with virtual conference attendance.

For virtual conference presentations, the task force explored pre-recorded videos along with tools, such as WebEx, that would allow attendees to talk in real time. Virtual presentations may be useful for events with many presenters who cannot physically attend.

Virtual attendance is more difficult. Properly recording and sharing each session requires extensive costs and logistics. Remote presentations can fail in many ways, which introduces risk and a diminished experience for those who attend both in person and virtually. Many presenters have expressed concerns related to being recorded and having their presentations available via video. Further, limited options exist to recreate networking and social opportunities for participants who attend a conference virtual as opposed to face-to-face. At the time we wrote this paper, we could not identify a good solution for members who wish to attend a conference virtually.

Childcare

Many AIS members have raised the need for AIS conferences to provide childcare. Many members cannot attend conferences since they cannot access childcare during the conference itself.

At AMCIS 2016 (in San Diego, California), the AIS contracted with a third party to offer childcare services during the conference. For a fee, parents could register their child for childcare during the conference program. Individuals could also pay hourly rates for childcare before and after the times of the conference. The AIS promoted this service heavily but cancelled it due to insufficient interest in the service. Even social events that would be a strong draw for families, such as the Sea World social event for ICIS 2015 in Orlando, Florida, had very few children present at the event. AMCIS Kids has not been revisited since AMCIS 2016, nor has the AIS made an effort to offer childcare for ICIS in large part due to the lack of interest for childcare at AMCIS in 2016. For members who do choose to bring their children to AMCIS or ICIS, the AIS currently charges no fee for a guest pass for children 7 and under; the association has reduced rates for guest passes for children ages 7-13 or those ages 14-18.

The effort that many AIS staff members, AIS council members, and AIS members have made to examine these two issues resulted from concerns that AIS members expressed. While the association implemented neither successfully, we document these two efforts to address diversity and inclusion issues to provide a record for the current and future AIS membership regarding the considerations and challenges associated with providing diverse and inclusive experiences for members.
References


Appendix B: Diversity and Inclusion Survey Measures & Lessons Learned

Table B1 identifies the measures we used in the diversity and inclusion survey that we conducted in September, 2017, with the AIS’s assistance.

The measures we used in the survey include previously established constructs that other organizations, such as the Academy of Management, have used to examine exclusion and inclusion issues. The constructs we measured in the survey included perceived insider status (Stamper & Masterson, 2002), perceived organizational support (Eisenberger, Huntington, Hutchison, & Sowa, 1986), affective organizational commitment (Allen & Meyer, 1990), workgroup inclusion (Ferdman, Varella, Allen, & Vuong, 2009), organizational inclusion (Mor Barak, Cherin, & Berkman, 1998), decision influence, information access (Pelled, Ledford, & Mohrman, 1999), and organizational inclusion. The survey also asked respondents additional questions to shed light on issues specific to the AIS; namely, organizational exclusion.

Respondents who completed the survey also identified which AIS communities they perceived as important to their work life, non-AIS communities important to their work life, leadership experience in the AIS, identification with the AIS (individual and community level), identity-based attribution of exclusion experiences, demographics, and qualitative comments on experiences of exclusion, inclusion, and inclusion practices. If respondents identified one or more communities as important to their work life, then they also answered questions related to perceived insider status, perceived organizational support, affective organizational commitment, and workgroup inclusion.

Given the personal nature of the data we collected, we took great care to ensure data privacy and responsible research conduct, which involved taking steps to comply with the European Union’s General Data Protection Regulation (GDPR) through anonymization and confidentiality practices. Further detail is available in Windeler, Petter, Chudoba, Coleman, and Fox (2018).

In conducting the survey, the Social Inclusion Task Force learned important lessons for future iterations of the survey. First, the task force received a strong level of support from AIS and AIS council members, particularly the VP of membership, AIS membership director, and AIS communications director. We worked diligently to encourage participation in the survey across AIS membership but had several challenges. In particular, we struggled to get high levels of participation among members in Regions 2 and 3. The AIS council’s regional representatives sent emails to members in their region to encourage participation, but it remained a struggle. We asked for help among AIS community leaders to solicit their members to participate in the survey. Some AIS communities were highly responsive and encouraged their members to participate while others did not. Part of our challenge with this survey also concerned the need for AIS to conduct its biennial member satisfaction survey. We tried to avoid an overlap between this task force’s survey and the AIS’s member survey. It may be that one should administer the diversity and inclusion survey in the “off-years” or during a different time of year than the AIS member satisfaction survey.

In addition to regional difficulties, we experienced difficulties accessing people who experienced exclusion to the point of not participating in the AIS at all. We did attempt to reach out to former AIS members but had little success in generating a response from them. On the other end of the inclusion spectrum included individuals who were highly engaged in the AIS and who may have believed that inclusion issues pertained not to them but only minority-attribute members. We do not agree with this view: all AIS members have an important role in helping everyone to understand inclusion and exclusion. In future social–inclusion surveys, we recommend making a more concerted effort to ensure that majority-attribute members know their input is necessary.
### Table B1. Survey Measures and Sources

<table>
<thead>
<tr>
<th>Construct (Source)</th>
<th>Items</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Perceived insider status</strong> <em>(Stamper &amp; Masterson, 2002)</em></td>
<td>I feel very much a part of the AIS.</td>
</tr>
<tr>
<td></td>
<td>I don’t feel included in the AIS.</td>
</tr>
<tr>
<td></td>
<td>The AIS makes me frequently feel “left out”.</td>
</tr>
<tr>
<td><strong>Perceived organizational support</strong> <em>(Eisenberger et al., 1986)</em></td>
<td>The leadership in the AIS really cares about my well-being.</td>
</tr>
<tr>
<td></td>
<td>The leadership in the AIS shows very little concern for me.</td>
</tr>
<tr>
<td></td>
<td>The leadership in the AIS cares about my opinions.</td>
</tr>
<tr>
<td><strong>Affective organizational commitment</strong> <em>(Allen &amp; Meyer, 1990)</em></td>
<td>I really feel as if the AIS’s problems are my own.</td>
</tr>
<tr>
<td></td>
<td>I do not feel a strong sense of “belonging” to the AIS.</td>
</tr>
<tr>
<td></td>
<td>The AIS has a great deal of personal meaning for me.</td>
</tr>
<tr>
<td><strong>Workgroup inclusion</strong> <em>(Ferdman et al., 2009)</em></td>
<td>I feel safe to express unique parts of myself in the AIS.</td>
</tr>
<tr>
<td></td>
<td>I feel misunderstood in the AIS.</td>
</tr>
<tr>
<td></td>
<td>My contributions are highly valued by the AIS.</td>
</tr>
<tr>
<td></td>
<td>I am fully respected by other members of the AIS.</td>
</tr>
<tr>
<td></td>
<td>When I interact with other members of the AIS, I can be genuine and authentic.</td>
</tr>
<tr>
<td></td>
<td>At the AIS, I am treated the way I want to be treated.</td>
</tr>
<tr>
<td></td>
<td>I feel I can be fully myself in the AIS.</td>
</tr>
<tr>
<td><strong>Decision influence</strong> <em>(Pelled et al., 1999)</em></td>
<td>To what extent do you feel you are able to influence:</td>
</tr>
<tr>
<td></td>
<td>- Elections at the AIS</td>
</tr>
<tr>
<td></td>
<td>- Program content at AIS conferences</td>
</tr>
<tr>
<td></td>
<td>- Decisions made in the special interest groups, chapters or colleges in which you are a member</td>
</tr>
<tr>
<td></td>
<td>- The strategy of the AIS</td>
</tr>
<tr>
<td></td>
<td>- Values and norms for success</td>
</tr>
<tr>
<td></td>
<td>- Content of the AIS’s journals</td>
</tr>
<tr>
<td></td>
<td>- Content of other top journals in the IS discipline</td>
</tr>
<tr>
<td><strong>Organizational inclusion</strong> <em>(Mor Barak et al., 1998)</em></td>
<td>The leadership in the AIS encourages the formation of network communities for members like me.</td>
</tr>
<tr>
<td></td>
<td>For members like me, there are sufficient opportunities to receive mentoring at the AIS.</td>
</tr>
<tr>
<td></td>
<td>The AIS welcomes members from various demographic groups (diverse in, for example, race/ethnicity, gender, age, nationality, sexual orientation, disability status).</td>
</tr>
<tr>
<td><strong>Organizational exclusion</strong> <em>(Adapted from AoM Diversity and Inclusion Theme Committee Survey)</em></td>
<td>In the AIS, to what extent have you felt excluded (or left out):</td>
</tr>
<tr>
<td></td>
<td>- From elected offices</td>
</tr>
<tr>
<td></td>
<td>- From influential social networks</td>
</tr>
<tr>
<td></td>
<td>- From Association for Information Systems journals (MISQ, ISR, ISJ, EJIS, JSIS, JIT, JMIS, JAIS)</td>
</tr>
<tr>
<td></td>
<td>- During social events at AIS conferences</td>
</tr>
<tr>
<td></td>
<td>- During doctoral, junior, or midcareer faculty consortia</td>
</tr>
<tr>
<td></td>
<td>- From contributing to critical decisions in the AIS</td>
</tr>
<tr>
<td></td>
<td>- From discussions in interactive program sessions (e.g., PDSs / roundtables)</td>
</tr>
<tr>
<td><strong>Information access</strong> <em>(Pelled et al., 1999)</em></td>
<td>To what extent do you feel well-informed about:</td>
</tr>
<tr>
<td></td>
<td>- Elections at the AIS</td>
</tr>
<tr>
<td></td>
<td>- Program content at AIS conferences</td>
</tr>
<tr>
<td></td>
<td>- Decisions made in the special interest groups, chapters or colleges in which you are a member</td>
</tr>
<tr>
<td></td>
<td>- The strategy of the AIS</td>
</tr>
<tr>
<td></td>
<td>- Values and norms for success</td>
</tr>
<tr>
<td></td>
<td>- Content of the AIS’s journals</td>
</tr>
<tr>
<td></td>
<td>- Content of the other top journals in your discipline</td>
</tr>
<tr>
<td><strong>Identity-based attribution of exclusion</strong> <em>(developed for this survey)</em></td>
<td>To what extent do your personal characteristics negatively affect your ability to participate in the activities of the AIS?</td>
</tr>
<tr>
<td></td>
<td>Options: race/ethnicity; age; gender; country of origin; country of employment; type of employment (e.g., type of school, non-academic employment); academic degree; sexual orientation; disabilities or physical attributes; religion; socioeconomic status, academic rank (e.g., student, assistant professor, lecturer); other (please specify)</td>
</tr>
</tbody>
</table>
**Table B1. Survey Measures and Sources**

<table>
<thead>
<tr>
<th>AIS involvement</th>
<th>Demographics</th>
</tr>
</thead>
</table>
| Which AIS special interest groups (SIGs) are important to your work life? Select all that apply.  
- Which AIS chapters are important to your work life? Select all that apply.  
- Which AIS colleges are important to your work life? Select all that apply.  
- Are there any other IS communities not listed above that you are actively engaged in?  
- Which of the SIGs, chapters, or colleges you selected above is the MOST important to your work life?  
- Have you ever served in a leadership position in the (community most important to work life) community?  
- Do you identify as a member of the AIS, irrespective of any lapses in paying membership dues?  
- Have you served in any elected office in the AIS?  |
| - What is your age? [Drop down list of numbers]  
- What is your ethnicity/race? [Open text field]  
- Biological sex: [radio button options: male; female; intersex; prefer to self-describe; prefer not to answer]  
- Gender identity: [radio button options: man, woman, transgender; non-binary; prefer to self-describe]  
- Note: In future surveys, we recommend making this a check box instead of a radio button so that respondents can select multiple identities. For example, transgender individuals may identify as a man or a woman and as transgender.  
- Sexual orientation: [radio button options: straight/heterosexual; gay or lesbian; bisexual; prefer to self-describe; prefer not to answer]  
- Disability status: [check box options: limiting physical condition; limiting cognitive condition; none; prefer to self-describe; prefer not to answer]  
- World region where you currently reside: [radio button options: Region 1 (Americas), Region 2 (Europe, Africa, the Middle East), Region 3 (Asia, Pacific), prefer not to answer]  
- Country of origin (i.e., where you spent most of your childhood and adolescence) [Drop down list of options, including “Not listed: please specify”]  
- Academic rank: [drop down list of options: doctoral student; post-doctoral researcher; adjunct; associate lecturer; lecturer (non-tenured); lecturer (tenured); senior lecturer; reader; assistant professor; associate professor; professor; emeritus professor; not an academic; prefer not to answer; my rank is not listed (please specify)]  
- Primary type of employment: [radio button options: unemployed; retired; academic; business; public sector; consultant; other (please specify); prefer not to answer]  
- Country where you work: [drop down list of options, including “not listed: please specify”]  
- Number of years you’ve been an AIS member [drop down list of numbers]  
- Type of member in the AIS: [radio button options: academic; student; professional; retired; prefer not to answer] |

**Qualitative responses**

Optional open-ended questions
- Can you think of a time when you felt excluded from the AIS and its communities? Please describe the event and why you think you were excluded.
- Can you think of a time when you felt included in the AIS and its communities? Please describe the experiences that made you feel included.
- What experiences, behaviors, or practices do you believe would increase your ability to participate in the AIS and its communities?
- If you’re willing to have a member of the SIG Social Inclusion Task Force contact you about this survey, please provide your email address.

Note: we measured constructs marked with ***at both the AIS level and the community level. The items listed replaced the word "AIS" with the name of the community that the respondent indicated was most important to their work life.
About the Authors

Jaime Windeler serves as the AIS SIG Social Inclusion Task Force chair and is president of the SIG for Social Inclusion and a member of the AIS Women's Network. She is Associate Professor of Operations, Business Analytics and Information Systems in the Lindner College of Business at the University of Cincinnati. Her research focuses on the management of distributed software development teams and the attraction, motivation, and retention of IT professionals. Her research is published or forthcoming in premier outlets such as *MIS Quarterly*, *Information Systems Research*, the *Journal of the Association for Information Systems*, *Information Systems Journal*, *Production and Operations Management*, and the *Journal of Organizational Behavior*.

Stacie Petter is Professor of Information Systems in the Hankamer School of Business at Baylor University. She is a member of SIG Social Inclusion, the AIS Women’s Network, and SIG IT Project Management as well as serves as Region 1 Representative on AIS Council. Her research currently focuses on impacts of information technology at the individual, group, organizational, and societal levels. Her work has been published in *MIS Quarterly*, *Journal of Management Information Systems*, *Journal of the Association for Information Systems*, *European Journal of Information Systems*, among others.

Katherine M. Chudoba is an Associate Professor and Associate Department Head of the MIS Department in the Jon M. Huntsman School of Business at Utah State University. She is a member of SIG Social Inclusion, the AIS Women’s Network, and SIG IT Project Management. Her research interests focus on the nature of work in distributed environments, and how Information and Communication Technologies (ICTs) are used and integrated into work practices. Her research has been published in outlets such as *MIS Quarterly*, *Journal of the Association for Information Systems*, *Information Systems Journal*, *Journal of Organizational Behavior*, and *Organization Science*. She served as a 2015 Fulbright Scholar to Brazil.

Emma Coleman is a Senior Lecturer in Information Systems specializing in qualitative research methodology and philosophy, with further research interests in social inclusion and inequality, user resistance to IS, health and public sector IS, and mobile technologies. She is Senior Editor (IS) for the South African Computer Journal and President of the AIS South African Chapter. She is Secretary of the AIS Special Interest Group on Social Inclusion (SIGSI), and a member of SIG Philosophy and Epistemology in Information Systems (SIGPHIL) and the AIS Women’s Network College (AISWN). She believes that devising strategies for greater inclusion will strengthen the capabilities and opportunities of IS academics locally and globally, and in turn increase the research impact of the field.

Grace Fox is a Postdoctoral Researcher and Lecturer in the Business School at Dublin City University, Ireland. She is a member of SIG Social Inclusion and the AIS Ireland Chapter. Grace completed her PhD in 2016. Her research focuses on information privacy and behavior, mobile health in developing countries and the assimilation of information technology among older adults. Grace has been involved in developing and teaching a number of information technology courses to older adults in Ireland, and research focused on implementing mobile health solutions in Nigeria.

Thomas A. Chapman is an Assistant Professor of Computer Information Systems at Colorado Mesa University. His research interests include exploring facets of cybersecurity, analytics, artificial intelligence, and virtualization in organizational settings. He is a professional member of the Association of Information Systems (AIS) and the Foundation for IT Education. Within the AIS community, he is a member of the Security (SIGSEC), Decision Support and Analytics (SIGDSA), Systems Analysis & Design (SIGSAND), Artificial Intelligence & Autonomous Application, and Social Inclusion (SIGSI) special interest groups.