

## From *Women to Gender and Diversity*

### Working Group 9.8

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**Abstract.** In this chapter, we look carefully into the genealogy and formation of WG 9.8: Gender, Diversity, and ICT. In our inquiry, we have looked into proceedings available online and via university libraries, read yearly reports from the working group, and reached out to prior participants who have played a part in forming and consolidating the working group by way of organizing the Work and Computerization (WWC) conference. The WG 9.8 has, since its early formation in the beginning of the 1980s, been concerned about women's experiences and conditions in relation to an automated and digitalized working life. This focus has prevailed in the lifespan of the working group and has been accompanied by other foci, such as gender and power relations. Thus, in unfolding the history of the working group, we come across technological phenomena and theoretical concepts that are still in use and/or are revived. We will, for example, meet the timely concept 'invisible work' and we will meet former conversations about the technology 'Artificial Intelligence'. With such reading of the history of WG 9.8 we will encounter a history where technology is deeply intertwined with the social, the cultural, and the political.

**Keywords:** Diversity, Feminism, Gender, Women in Computing.

## 1 Foundational Activities

WG 9.8. Gender, Diversity, and ICT's early formation took place at the Work and Computerization (WWC) conference, which was held as part of WG 9.1's *Computers and Work*. The first WWC conference took place in Riva del Sole, Italy, 17–21 September 1984. In the proceedings, we can read that: "The rapid introduction of new computer based technologies is threatening women's jobs and transforming the roles women play in the workplace" [1, p. 3]. The impact of computerization on women's work and conditions had been brought up in various contexts including WG 9.1. At a meeting held in Stockholm, Sweden, Boel Carlsson and Ingela Larsson proposed a conference on Women, Work and Computerization at a meeting of the working group Computers and Work (IFIP TC 9 WG 9.1) in May 1983 in Stockholm" [1, pp. 3–6]. At this meeting, a tentative decision was made, which enabled the organizers to con-

tinue with the plans working for a WWC conference to be held in 1984. The final decision to support the WWC conference was made at the TC 9 meeting held 16–18 September 1983 in Paris. This meeting was held in conjunction with the IFIP 9th World Computer Congress (personal communication with Ingela Larsson).

Including the program committee (8 people) and organizing committee (4 people), 94 attendees were registered at the first WWC conference. Most participants were from a European country with a predominance of Nordic participants. Participants from the USA and Australia also took part. The conference revolved around seven themes: conference report; office automation, work, and skill; remote work or telecommuting; manufacturing – women and computers in industrial work; practice and participation in systems design; education and training; country reports. Twenty-eight contributions, including reports from three working groups, are presented in the proceedings assigned to the above-mentioned themes. Gunilla Bradley (now professor emerita), for example, presented her paper “Computer and Work Content, Work Load and Stress: Analyses and Women’s Participation Strategies” under the theme Practice and Participation in Systems Design. Bradley has participated in HCC conferences, in the working groups 9.2, 9.8, and 9.10. In 1998, Bradley received the IFIP Naumar Award. Ina Wagner, a member of the program committee, presented her paper “Women in Automated Office Contradictory Experiences: Individual and Collective Coping Strategies.” Professor emerita Ina Wagner attended several WWC conferences as member of organizing/program committees, keynote presenter, and as presenter of papers. She was the chair of WG 9.1 between 1992–95 as well.

Reading the proceedings, it becomes obvious how the contributions at the conference highlight women’s experiences and conditions due to the computerization of working life. These are issues that were rather invisible in research and discussions of the time. This is also apparent in the country reports presented at the conference. Reports from six countries – Austria, France, Denmark, Finland, Norway, Sweden – were presented along commentaries from Ina Wagner’s [1, pp. 301–2]. Wagner notes four shared concerns included in the reports:

- “the specific implications of computerization for the work of women have been neglected”
- “the dominance of the male model in assessing computerization, the perception of computer applications is restricted to traditional patterns of dealing with questions of work”
- “the unions as the central institutions that carry the political-moral obligation to cover these neglected issues”
- “there is an alarming lack of meaningful statistical data in all countries, both on the diffusion of specific computer technologies in different areas of the economy and on the implications of computerization for working women and (men).”

Subsequent WWC conferences were held in Dublin, Ireland in 1986 (second) and in Amsterdam in 1988 (third). Boel Carlsson and Ingela Larsson were also involved in organizing the second WWC conference. A proceedings volume was not published from the second WWC conference. Ina Wagner’s reflection from the second conference is that it “may have been a bit too early after the first one because we received

few submissions” (personal communication). The submissions to the third conference Women, Work, and Computerization: Forming New Alliances were published in [2].

At the fourth WWC conference, which was held in Helsinki, Finland, 125 persons participated. Most of the attendees were from Finland (29) whereas 15 came from other parts of the Nordic countries and 47 from other countries in Europe. Seven participants were from USA and Canada, three from Australia, one from Africa, and one from Asia. Seven themes were included in the conference program: improving the quality of women’s work, labor markets within firms, division of labor, and computerization in different countries; female orientation in systems design; training and education; women in EDP jobs; gender, symbols and technology [3].

The keynote contributions presented in Helsinki were, e.g., Sara Heinämaa’s with the title “Women’s Place in Artificial Intelligence: Observations on Metaphors of Thought and Knowledge” and Swasti Mitter’s “Computer-Aided Manufacturing and Women’s employment: A Global Critique of Post-Fordism.” Thus, Heinämaa highlighted AI of that time and Mitter positioned her talk in a global context. Both topics are still relevant. Invisible work addressed in Leigh Star’s paper is an appearing theme at the conference as well as in later research in, e.g., Feminist/Gender research, Science and Technology Studies, Computer Supported Cooperative Work. Further, Joan Greenbaum paid attention to Participatory Design in her keynote. She has been a frequent participant at the WWC conferences. Another frequent scholar invited to WWC conferences is Lucy Suchman who closed the fourth WWC conference with Closing Remarks on the 4th Conference on Women, Work and Computerization: Identities and Differences.

In the fourth WWC conference, the organizers followed the tradition established at the first WWC conference to share working group reports from each theme. Individual contributions to be mentioned are Marja Vehviläinen’s who has been involved in a number of WWC conferences as a member of organizing committees/program committees, responsible for panels, and a presenter of papers. In Helsinki she presented her paper “Gender in Information Systems Development: A Women Office Worker’s Standpoint” [4].

Cecilie Crutzen, who was the chair of WG 9.8 between 2009-2011, also attended several WWC conferences. Her paper *Women in Informatics at the Open University of Netherlands* was presented in Helsinki [5]. The papers “Structural Factors which Condition the Computerization of Women’s Labour in Spain” [6] and “Women’s Work and Challenges of Computerization: The Nigerian Case” [7] extended the conference to include papers from other countries in Europe and Africa beyond the Nordic countries and the UK.

In the introduction to the proceedings of the fifth WWC conference, Alison Adam and Jenny Owen [8, p. 2] write:

Clearly this collection of papers contains a very mixed picture, regarding gender – both in the descriptive accounts of ongoing projects, and in the more theoretical contributions. However, the increasing confidence with which women and men are prepared to approach these issues coupled with the positive way that many of the authors tackle their subject, means that the tone of the confer-

ence is most definitely upbeat regarding the aim of “breaking old boundaries and building new forms.”

The mixed picture is illustrated in the invited keynotes with participation of scholars (Joan Greenbaum, Lucy Suchman, Ina Wagner, and Christina Preston) and a representative from a computer company (Anita Borg). An Open Day a cooperation with the grassroots organization Women in Computing (WiC) with seven contributions was another activity to demonstrate the openness created in previous WWC conferences and also IFIP’s idea of building communities between various practitioners. Fifty-two contributions including a workshop were divided in five themes: community, communication and information networks; information technology, flexibility and restructuring; information systems design and user-centered perspectives; education, training and learning; feminist theoretical perspectives on power, knowledge, and technology. This shows a rich variety in topics in addition to contributions located in various contexts. The papers were published [8].

A mixed picture, as Adam and Owen describe the contributions to the fifth WWC, can also be used to characterize the papers presented at the subsequent WWC conferences held in Bonn (1997) and Vancouver (2000) respectively: gender, gendered, feminist, feminist approach, women’s, women were included in the titles. The contributions to the sixth WWC conference were published in [9].

## 2 A New Working Group

In 1998 it was decided to establish a new working group within IFIP Technical Committee 9: WG 9.8, Women and Information Technology.

In the annual report, Pertti Järvinen writes: “The next WWC (Women, Work and Computerization) conference will be organized in Vancouver, probably end of May in the year 2000. The WG 9.1 supports the founding of the new working group (WWC) within TC 9. The WWC group is preparing the new WG” [10]. However, the new working group was pending until 2001 when the decision was accomplished in the new WG, Women and Information Technology. Computerization/computers were thus replaced by information technology to reflect a new established concept due to the development of technology.

The seventh WWC conference was held in Vancouver, Canada [11]. The plan was to continue with the WWC conference. However, it is unclear where it was supposed to be held – in some annual reports Australia is mentioned and in others, India. It is also unclear why the plan to continue with WWC conference was not realized. Professor Ellen Balka, the chair of the seventh conference, did not remember where the next WWC conference was supposed to be held. However, she shared the following reflection:

One of the other points that came up for discussion in relation to subsequent meetings was whether or not we still needed WWC in that it was becoming easier for people to find places to publish feminist work or work about women. Interestingly, some women also felt they received more credit academically when they published work in venues which did not focus on women, so be-

tween the cost financially, the potential availability of other places to publish and the perceived advantage in the academic credit machine of publishing in an outlet not focused on women were probably all significant contributors to the end of WWC. (Personal communication)

Regardless of whether the conference was organized or not, the new working group could have held activities. However, it seems to have been difficulties to continue with activities in WG 9.8 when the organization of WWC conference did not continue. This is highlighted by Chrisanth Avergou who writes: “WG 9.8, although it had its origin in an active core of members which had organized very successful conferences as a specialist group of WG9.1, did not manage to organize any events since its establishment as a Working Group in 2001” [12, p. 138].

Due to an inactive working group Avergou made efforts to revive the group. The efforts are presented in the following way:

The revival of WG 9.8 on Women and IT was more protracted. The TC’s communication with the Group’s chairperson was completely broken by 2006 and I invited one of the WG members that I knew to be particularly keen on the cause of IT and women to re-launch the Group. Unfortunately she too was overburdened with her academic duties and unable to devote time to this task; she resigned two years later without making progress. I then approached Marja Vehviläinen, who agreed to organize a WG 9.8 meeting at the 5th European Symposium on Gender & ICT in Bremen, in March 2009. The meeting proved successful; not one, but a team of women undertook the task of re-launching WG9.8., with Cecile Crutzen acting at present as chair. This collective responsibility is a welcome innovation in the TC, breaking the hierarchical officers’ structure. The Group change its name to ICT and Gender Diversity and redrew its aims and scope accordingly. They have a similar policy to WG9.1, of joint conferences with other established IT and women conferences. [12, p. 142]

It is unclear whether WG 9.8 has had any activities after the meeting held in Bremen in 2009. However, a meeting was held in Umeå in connection with the 6th European Symposium on Gender & ICT. It was held depending on Cecile Crutzen’s, the chair of WG 9.8, retirement. One outcome of the meeting was to nominate persons to be a candidate to chair the WG 9.8. The nominations were supposed to be sent to Cecile Crutzen before September 1, 2011 (Crutzen, 2011, minutes of the WG 9.8 meeting in Umeå). However, it is unclear whether there were any nominations of a chair or if the team that was selected in Bremen continue with the revival of the working group.

Of the annual reports and above all Diane Whitehouse’s, chair of TC 9 between 2014–17, efforts, it took several years to find persons who were willing to be responsible as a chair, co-chair, and secretary of WG 9.8.

Diane Whitehouse, chair of TC 9 between 2014-17, concerns regarding the WG 9.8 is expressed in the 2014’s annual report: “There is every evidence that the gender diversity and ICT working group can be revived, based on current interaction between Hilde Corneliussen (Norway), Christina Mörtberg (Sweden), and new individual members (Feliene Hermans).” In 2016’s report, she writes:

Gender and computing (9.9). Dormant. NB. There is the possibility that two Swedish academics will seek to revive what may be proposed as a merger of 9.3 and 9.9, with a focus on ICT, its use in the care professions and environments, and its implications for gendered workforces (i.e., nurses; care workers) as well as older, vulnerable, frail populations, including many women). Skype meeting planned for end September 2016 with TC9 chair.

In 2017's report, Whitehouse expressed hopes that WG 9.8 will be re-launched: "Gender and computing (9.8). Dormant. Two Swedish and one Danish academic are considering re-launching the group off the back of HCC13. All were put into contact with the "Women in IT" task force run by Brenda AYNSLEY and Gabriela MARIN.

Finally in David Kreps', chair of TC 9 from 2018, annual report from 2018, we read: "9.8 Gender, Diversity and ICT. Relaunching early 2019. Three Swedish academics, who have been Chairing the Track on this topic in HCC13, are seeking to revive this WG early in 2019. Further discussions and confirmation planned as part of the TC9 meeting."

### 3 Revival

The revival of the working group was formally decided in Poznan in 2018 where Sisse Finken (Denmark), was appointed as the chair, Johanna Sefyrin (Sweden) as the co-chair, and Charles Ess (Norway) as the secretary. With the revival the working group lead added and re-named the group to "Gender, Diversity, and ICT" in an effort to signify the importance of diversity both in terms of inclusiveness of working group members and in terms of creating awareness of *diversity* when concerned about use and design of digital technologies. In line with this, we read on the WG 9.8 webpage [13] that the group is concerned about, amongst other things, transitions from traditional gendered life to new gendered perspectives:

The topics cover the transitions from traditional gendered work to work based on modern digital technologies, from communication within personal communities to virtual communities, from traditional gendered life to new gendered perspectives. Digitalization is understood in the narrow sense of digital systems as well as in the broader sense which includes the organisational, ethical, social and material contexts of design and usage.

Discourses are linked to:

- the analysis of the deep entanglement of human beings with digital technologies, with other species, and with the world in which we live,
- the analysis of opportunities and risks of digital technologies for work in the paid labor force, in domestic and public spheres, and in national and global societies,
- the analysis of gender perspectives in the formative and constructive processes of computers and information systems,
- the analysis of gender in computing education and educational strategies.

While it was a pleasure to meet and revive the working group in 2019, the Covid-19 pandemic was prevailing during 2020–2022, which affected the HCC conferences

in Tokyo, Japan. The pandemic also shaped a workshop hosted by WG 9.8 (on 16 April, Linköping University, Sweden), which was held online under the title: “Work, Place, Mobility and embodiment: <<RECOVERY>> or REPAIRMENT in a Covid and eventually post-covid world.”

#### 4 WG 9.8’s Transformation to Gender and Diversity

The attentive reader might have noticed the changing concepts (e.g., women, gender diversity, gender, diversity, computerization, digitalization) when reading through the history of WG 9.8. In the following we briefly delineate such moves and changes with respect to the life span of the working group.

The Working Group 9.8 Gender, Diversity, and ICT has its origin in the Women, Work and Computerization (WWC) conference held as part of the WG 9.1 Computers and Work. In 1998 it was decided to establish a new WG, WG 9.8 Women and Information Technology. However, it was pending until 2001 when the decision was accomplished in the new WG, Women and Information Technology.

The topics included in the first WWC conference held in 1984 revolved around office automation, telecommuting, remote work, systems design/development with a specific focus on women’s work., skills, workload, and stress. Thus, the development of the WCC conference as well as the working group Women and Information Technology took place at the same time as Women’s Studies were growing. Departments/units were founded at universities in 1970s or 1980s, e.g. as early as in 1974 Women’s Studies was founded at University of California, Santa Cruz.<sup>1</sup> Thus, the research and education performed at that time were united under the term Women’s Studies.

Women’s studies were instituted concurrently with the emergence of women’s movement with its focus on women’s conditions and power relations in the society. Women’s scholars and women’s movements activists collaborated aiming for a change of women’s conditions and power. Furthermore, gender equality became also a growing political issue in 1970s with a focus on gender equality legislation. For example, in Sweden the first Gender Equality Act was enacted in 1976. And in 1980 the Gender Equality Ombudsman was founded in Sweden.<sup>2</sup> Gender equality is a political issue, but gender/feminist research provides knowledge to be used by policy makers and to be included in gender equality policies and measures.

The focus on women and women’s experiences can be characterized as the construction project or the positive project with the use of Aino Saarinen’s [14] notions. To highlight women’s experience, work, and activities resulted in new knowledge about women by the formulation of new questions and concepts. So, what was explored and what scholars paid attention to in 1970s and 1980s made visible women’s experiences and abilities gained in their everyday life.

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<sup>1</sup> <https://feministstudies.ucsc.edu/about/index.html>. Today the department is called Feminist Studies.

<sup>2</sup> Today, Equality Ombudsman (Diskrimineringsombudsman).

Although new knowledge about women's experiences and conditions were created, Harding recognized the risk embedded in the women's perspective, she argued: "Thus to focus on *women's* world view, or the *feminine* world view, paradoxically supports a masculinist conceptual scheme" [15, p. 173]. Harding's argument and other scholars' discussions together with activities at universities with the establishment of Women's Studies entailed a conceptual and theoretical move from the woman question to focusing on gender relations and as well as epistemological issues; e.g., [15, 16]. Joan Scott defines gender as "a constitutive element of social relationships based on perceived differences between the sexes, and gender is a primary way of signifying relationships of power" [17, p. 1067].

A transition from the woman question to analysis of gender relations including power relations became also evident in some of the contributions presented at the WWC conferences held 1991 in Helsinki. For example, gendered division of labor, gender perspectives, gender issues, and gender were included in some titles. The move became even more noticeable in the contributions presented at the fifth WWC conference held 1994 in Manchester where a variety of theories and concepts became visible such as: feminist practice, feminist approach, feminist epistemology, feminist study, gender, women, women's work. The move was also highlighted in the theme Feminist Theoretical Perspectives on Power, Knowledge, and Technology - one of five themes included in the conference, with Alison Adam's "Who Knows How? Who Knows That? Feminist Epistemology and Artificial Intelligence" [18].

In addition to gender and feminist researchers' development of various concepts and theories, the technology was also developed since the first WWC conference was held in 1984. Computers or computerization were the dominating technologies used in the contributions presented in 1984 and at the sixth WWC conference technologies such as the Internet, information systems, virtual environments, cyberspace, virtual worlds were also paid attention to in the papers. That, together with the body of knowledge created by feminist scholars also actualized the co-construction of gender and technology. Judy Wajcman argued: "we now work from the basis that neither masculinity, femininity nor technology are fixed, unitary categories, but that they contain multiple possibilities and are constructed in relation to each other" [19, p. 460].

During the years when WG 9.8 was inactive, a variety of meanings, concepts, and theories were outcomes of the growing gender and feminist communities. Examples are social construction/constructivism of gender, doing gender, gender performativity, queer theories, intersectionality, feminist technoscience, posthumanism, postcolonialism. Diversity in terms of concepts and theories used by gender and feminist researchers is also reflected in the WG 9.8's change of name from Women and Information Technology to Gender, Diversity, and ICT where the commas around diversity have come to form a semantic field of importance in the scope of the working group and in its approaches to design and use of digital technologies.



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