

Technical Report

Responsible for information:

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<http://www.advancesincleanerproduction.net>

Summary

During the 2nd International Workshop Advances in Cleaner Production, Brazilian and foreign researchers discussed, for three days (20, 21 and 22 May, 2009) at the University Paulista (Campus Indianópolis), the Key Elements for a Sustainable World: Energy, Water and Climate Change.

The international event was organized by the Postgraduate Program in Production Engineering (PPGEP-UNIP), master and doctorate, and counted with the partnership of ASEC (CETESB's Engineers Association), NPPR (National Prevention Pollution Roundtable, from United States), Ucf (Universidad Cienfuegos, Cuba), and UNISON (Universidad de Sonora, México).

The partnership with the Journal of Cleaner Production, started during the 1st Workshop was maintained with the support of the Editor in Chief (Prof. Donald Huisingh), resulting in the Call for Papers for a special issue of the journal to be published with the best works presented in this second edition of the event.

The Brazilian Navy participated with a divulgation stand of the Blue Amazon Project, with the aim to present the maritime potential of the country as a source of living resources, minerals and oil to the participants of the event.

The 2nd Workshop received financial support from SENAC (National Commercial Training Service), the Bank of Brazil and funding agencies as FAPESP (Fundação do Amparo à Pesquisa do Estado de São Paulo) and CAPES (Coordination for the Improvement of Higher Education), which were fundamental to the achievement of the event.

Publishers Manole, Edgard Blücher and Revista Meio Ambiente Industrial supported the event and donated books and magazines that were distributed among the participants.

The event was also supported by ABEPRO (Brazilian Association of Production Engineering), CETESB (Environmental Agency of São Paulo), UNEP (United Nations Environmental Program), UNIDO (United Nations Industrial Development Organization), Red Latinoamericana de Producción más Limpia, ANAB (National Association of Bio-ecological Architecture), FGV (Getúlio Vargas Foundation) with the Program of Social Responsibility and Sustainability in Retail, FIERGS/SENAI and FIESP (industry federations of the states of Rio Grande do Sul and São Paulo) and the LATEC/UFF (Laboratory Technology, Business Management and Environment, Federal Fluminense University).

The efforts of the Vice-Dean of Post-Graduate Studies and Research of UNIP for the success of the International Workshop are responsible for the infrastructure, including teachers and students of the Tourism course, integrating the Supporting Committee of the Workshop, and the UNIP Chorus, which provided a masterly presentation.

The Organizing Committee considered the second international workshop held in Brazil was extremely productive, fully reaching its goals:

(1) The purpose of academic information exchange has been fully achieved. It was a significant number of participating academic institutions (74 universities and colleges). Ninety-two (92) academic contributions were presented. The quality of the work presented resulted in an invitation by the Journal of Cleaner Production (JCP), for a second special issue of the journal containing the papers presented at the Workshop.

(2) Presentations of recent achievements in CP were made by a significant number of companies. Eighteen (18) cases of success were presented in oral form. The event provided the contact between academic knowledge and corporate experience (35 companies in the industrial and services sectors). Contributions presented reported experiences of companies from Brazil, Canada, United States and France.

(3) The discussion of common problems and routing of solutions was extensively covered by the plenary sessions, oral presentations, and workshops. At the workshops, working groups were formed to discuss attitudes needed to contribute to the key elements for a sustainable world. This activity was coordinated by three invited speakers. The first was directed by Cam Metcalf, professor of the University of Louisville and executive director of KPPR (Kentucky Prevention Pollution Roundtable, EUA). Nineteen participants of the workshop, from the most varied sectors, were invited to reflect about water management in the industry sector, and to elaborate policies for water use. The second workshop was directed by Dr. Javier Esquer Peralta from University of Sonora (México). In this workshop, 11 participants discussed the use of tools and the systemic approach for pollution prevention. The third workshop was coordinated by Dr. Alcir Vilela Júnior from SENAC. Twenty participants discussed the strategies for pollution prevention in the supply chains expansion.

(4) The deepening of the discussion in the fundamental theme of the event, Key Elements for a Sustainable World: energy, water and climate change, was the central concern of the event.

Given these impressive results, the Organizing Committee is honored for organizing the 2nd International Workshop on Advances in Cleaner Production.

Presentation

The **2nd International Workshop: Advances in Cleaner Production** was realized with the efforts of a set of people who labored for its success. This heterogeneous set consisted of guest speakers, lecturers, presenters of academic and organizational experiences and sessions' coordinators.

The following list is composed by the various institutions of the event's participants. The list allows establishing the institutional representation at the event.

- ABEPRO – Associação Brasileira de Engenharia de Produção
- Advenient Technology, CA, USA
- AGENDA 21 MACRO LESTE SP
- ANAB – Associação Nacional de Arquitetura Bioecológica
- Anglo American
- Anhembi Morumbi
- Apoio Consultoria, Rio Grande do Sul,
- Arcelor Mittal, Metz, França
- Artecola Indústrias Químicas Ltda., Campo Bom – RS
- ASEC – Associação dos Engenheiros da CETESB
- Brazil National Cleaner Production Centre SENAI/UNIDO/UNEP
- BSH Continental
- Câmara Municipal de São Paulo - CMSP
- CBQ Idéias Sustentáveis
- Centro de Produção Más Limpia del Bajío
- Centro Tecnológico da Marinha em São Paulo - CTMSP
- Centro Universitário da FEI, S. B. Campo
- Centro Universitário Senac
- CEPIS – Centro de Produção Industrial Sustentável, Campina Grande,
- CETESB, Companhia de Tecnologia de Saneamento Ambiental, São Paulo
- Chamber of Compensation of Emission Atmospheric of the State of Sao Paulo (CPCEA).
- COMDEMA Cons Mun Meio Ambiente
- Comissão Interna de Gestão Ambiental – CIGAmb/IOC/FIOCRUZ
- Concurrent Technologies Corporation, Johnstown, PA, USA,
- Dibracam
- EFIL Divisão Galvano – São Paulo
- EFIL Equipamentos e Processos de Filtração Ltda –São Paulo
- Environmentool
- Escola Superior de Agricultura “Luiz de Queiroz”, Piracicaba
- Faculdade Metropolitana de Curitiba
- Faculdade Metropolitana de Curitiba, São José dos Pinhais
- Faculdade Sete de Setembro, Paulo Afonso
- FATEC-BS, Santos
- FATESG
- FIERGS – SENAI
- FIESP
- Figueiredo Ferraz Consultoria e Engenharia de Projetos S/A
- Firmenich & Cia Ltda
- Fundação Getúlio Vargas
- Gerentec Engenharia Grande do Sul
- Grinover Associados Arquitetura Design, São Paulo
- Institut Jean Lamour, Nancy, França
- Instituto de Pesquisas Energéticas e Nucleares -IPEN-CNEN/SP
- Instituto Federal de Educação, Ciência e Tecnologia de Alagoas
- Instituto Federal de Tecnologia da Paraíba
- Instituto Federal Espírito Santo
- Instituto I3G (Instituto de Governo Eletrônico, Inteligências e Sistemas – i3G), Florianópolis
- Instituto Nacional de Engenharia, Tecnologia e Inovação (INETI- Materials and Production Technologies Department, Lisboa, Portugal)
- Instituto Nacional de Pesquisas da Amazônia
- JNE Consulting Ltd., Hamilton, ON, Canada
- Johnson & Johnson
- Kentucky Prevention Pollution Roundtable, EUA
- Lumina Energia
- M&I Power Technology, Inc., Mississauga, ON, Canada
- Metro, São Paulo
- MV Arquitetura
- National Cleaner Production Center - China
- National Prevention Pollution Roundtable, EUA
- New Orleans University, EUA
- Núcleo de Produção mais Limpia do Rio de Janeiro – CTS SENAI-RJ Ambiental
- Patrimonio Inc.
- Pennsylvania State University (Applied Research Laboratory), EUA
- PROCAM- Programa de Ciências Ambientais - Universidade de São Paulo (USP)
- Programa de Planejamento Energético, Universidade Federal do Rio de Janeiro
- Programa de Responsabilidade Social e Sustentabilidade no Varejo, FGV
- Red Latinoamericana de Producción mas Limpia
- SABER GLOBAL
- Secretaria da Educação - Bahia
- SENAI DR – Bahia, Unidade Cetind, AMA
- Sherwin-Williams, Sumaré
- Sherwin-Williams, Taboão da Serra
- Siemens Energy Service Division/Oil & Gas Industrial Applications
- Siqueira Castro Advogados
- Sociedade Educacional de Santa Catarina, Joinville
- Tecnoambi Consultoria e Engenharia Ambiental Ltda, Caxias do Sul
- Unisinos, São Leopoldo - RS
- United Nations Industrial Development Organization - UNIDO
- Universidad Alberto Hurtado, Chile
- Universidad Cienfuegos, Cuba
- Universidad de la Republica, Uruguay
- Universidad de Sonora, México
- Universidade de Brasília, Brasília
- Universidade de Caxias do Sul, Caxias do Sul
- Universidade de Santa Cruz do Sul
- Universidade de São Paulo, Ribeirão Preto
- Universidade de São Paulo, São Carlos
- Universidade de São Paulo, São Paulo
- Universidade do Estado de Santa Catarina, São Bento do Sul
- Universidade do Grande ABC
- Universidade do Vale do Rios dos Sinos São Leopoldo
- Universidade Estadual de Campinas
- Universidade Estadual de Maringá
- Universidade Estadual de Santa Cruz, Ilhéus
- Universidade Estadual do Maranhão
- Universidade Estadual do Oeste do Paraná, Cascavel
- Universidade Estadual do Oeste do Paraná, Marechal Cândido Rondon
- Universidade Estadual do Rio Grande do Sul, Bento Gonçalves
- Universidade Estadual do Sudoeste da Bahia, Vitória da Conquista
- Universidade Estadual Paulista, Bauri
- Universidade Estadual Paulista, Campus Experimental de Tupã
- Universidade Estadual Paulista, Guaratinguetá

- Universidade Federal da Bahia
- Universidade Federal da Paraíba
- Universidade Federal de Juiz de Fora
- Universidade Federal de Pelotas
- Universidade Federal de Pernambuco
- Universidade Federal de Santa Catarina
- Universidade Federal de São Carlos
- Universidade Federal de Viçosa
- Universidade Federal do ABC, Santo André
- Universidade Federal do Pampa, São Gabriel
- Universidade Federal do Paraná, Curitiba
- Universidade Federal do Rio de Janeiro
- Universidade Federal do Rio Grande do Norte
- Universidade Federal do Rio Grande do Sul
- Universidade Federal Fluminense
- Universidade Mogi das Cruzes
- Universidade Nove de Julho
- Universidade Paranaense, Toledo
- Universidade Paulista, São Paulo
- Universidade Presbiteriana Mackenzie
- Universidade Salvador
- Universidade Tecnológica Federal do Paraná, Curitiba
- Universidade Tecnológica Federal do Paraná, Medianeira
- Universidade Tecnológica Federal do Paraná, Ponta Grossa
- University of Louisville, EUA
- University of Maribor, Faculty of Economics and Business, Slovenia
- University of Northampton, School of Applied Sciences, Inglaterra
- University of Piraeus, Grécia
- Uppsala Centre for Sustainable Development, Uppsala University, Sweden
- Valeo Sistemas Automotivos
- Vrje Universiteit Brussels, Belgica

Participants Profile

The **2nd International Workshop: Advances in Cleaner Production** had 428 participants from various sectors committed with the theme: Key Elements for a Sustainable World: energy, water and climate change (Figure 1).

The comparison with the previous event shows that there was a significant increase in the number of participants in all sectors. Noteworthy are the 66% increase in the participation of universities and colleges and the increase of approximately 53% in the number of undergraduate students. The participation of P + L centers and private companies increased in 25%, however it is important to note the participation of P + L centers from Mexico and China, and also from foreign private companies from Canada, United States and France.

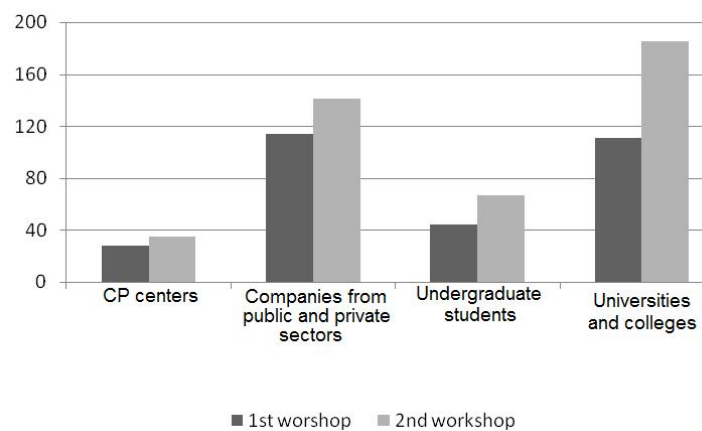


Figura 1. Profile of participants of the 2nd International Workshop: Advances in Cleaner Production compared to the profile of the previous event.

In addition to the lectures presented by invited speakers (five foreign and four Brazilians), there were presented 92 academic contributions and 18 organizational experiences. There were also papers presented by foreign universities, and works from various regions of Brazil (Figure 2). All Southeastern states were represented at the event, and this was the region with the highest number of representatives. However, it should be highlighted the participation of the South states and the Northeast states, with participants of Bahia, Paraíba, Alagoas, Rio Grande do Norte and Pernambuco. The comparison with data from the previous event shows that the participation of the southeastern states remained almost unchanged, but there was a 50% increase in the participation of the southern states and 20% in the northeastern states. Participation of foreign universities has tripled in oral presentations.

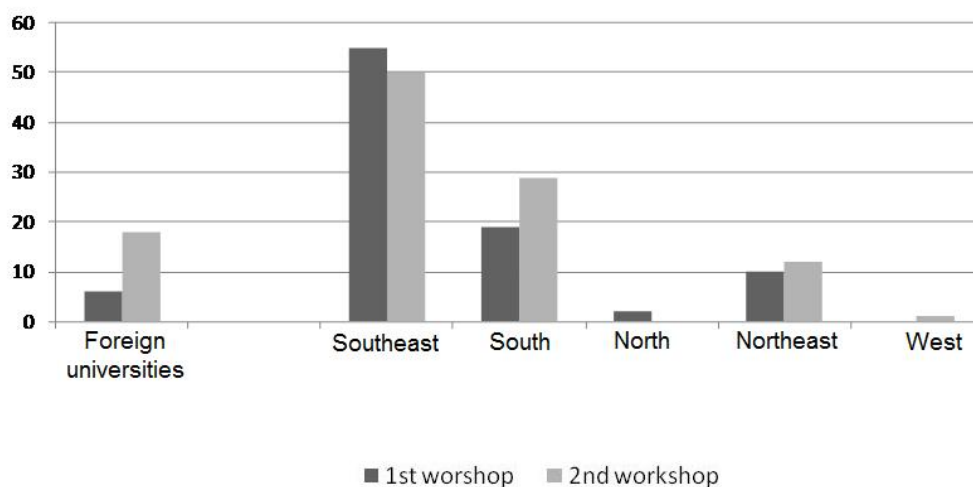


Figura 2. Presented works at the 2nd International Workshop: Advances in Cleaner Production, accordingly to the place of origin compared to the data of the 1st International Workshop

Quality of work

The quality of the work presented resulted in a second invitation by the Journal of Cleaner Production, for a special issue of the journal containing papers related to the 2nd International Workshop: Advances in Cleaner Production. The call for papers may be accessed at the event website: (www.advancesincleanerproduction.net).

Plenary sessions

Five foreigners and four Brazilians invited speakers addressed important issues related to Cleaner Production (Table 1).

Table 1. Invited speakers, delivered themes and their origin.

Speaker		Theme	Country
Bhaskar Kura	Researcher of University of New Orleans	Cleaner Production Research at the University of New Orleans, USA	United States
Cam Metcalf	Executive director of the Kentucky Pollution Prevention Roundtable	Industrial Water Management	United States
Carlos Fernando Zinola	Researcher of Universidad de La Republica	Modification of the Uruguayan Energy Matrix with use of non-conventional energies	Uruguay
Enrique Ortega Rodriguez	Researcher of Universidade Estadual de Campinas	Strategies for Changing the Future	Brazil
José Goldemberg	Professor of the Universidade de São Paulo	The Role of Energy in Sustainable Development	Brazil
Luc Hens	President of the Human Ecology department of Vrije Universiteit Brussel	A University Centre for CP in Cienfuegos, Cuba	Belgium
Paulo Antunes de Oliveira Rosa	Director of the Centro Nacional de Tecnologias Limpas SENAI	CNTL-SENAI Participation in Latinoamerican Net of CP	Brazil
Phillip M. Fearnside	Researcher of the Instituto Nacional de Pesquisas da Amazônia	Global Warming and Sustainable Development	Brazil
Yu Xiuling	Deputy director of the China National Cleaner Production Center.	Analysis on CP Promoting Systems and its Results in China	China

Special Plenary Session

A special plenary session was organized by the Program for Social Responsibility and Sustainability in Retail, from the Getúlio Vargas Foundation. At the "Sustainability Aspects: Production, Consumption and Retail" three conferences were presented:

Sustainable Production
Alcir Vilela Junior (SENAC)

Sustainable Consumption
Sylmara Days (PUC-SP)

Sustainable Retail
Roberta Cardoso (Fundação Getúlio Vargas)

Presentation of the Blue Amazon Project

The Navy of Brazil participated of the event with the installation of a stand for the dissemination of the Blue Amazon Project in order to introduce the country's maritime potential as a source of living resources, minerals and oil to the participants to the event.

Workshops

In the Workshops, issues concerning the role of the key elements for the sustainability of the planet were discussed. Fifty participants (Figure 3), from the most diverse sectors were invited to reflect on three workshops.

Workshop 1 - Industrial Water Management
Cam Metcalf (University of Louisville, USA)

Workshop 2 - Systems Approach Tools for Pollution Prevention
Javier Esquer Peralta (University Sonora (UNISON), Mexico)

Workshop 3 - Preventive Strategies and Expanded Supply Chain
Alcir Vilela Junior (SENAC, Brazil)

With respect to the previous event, Figure 3 shows that participation in this type of activity is maintained and that there was increased interest from the academic community participation in the workshops.

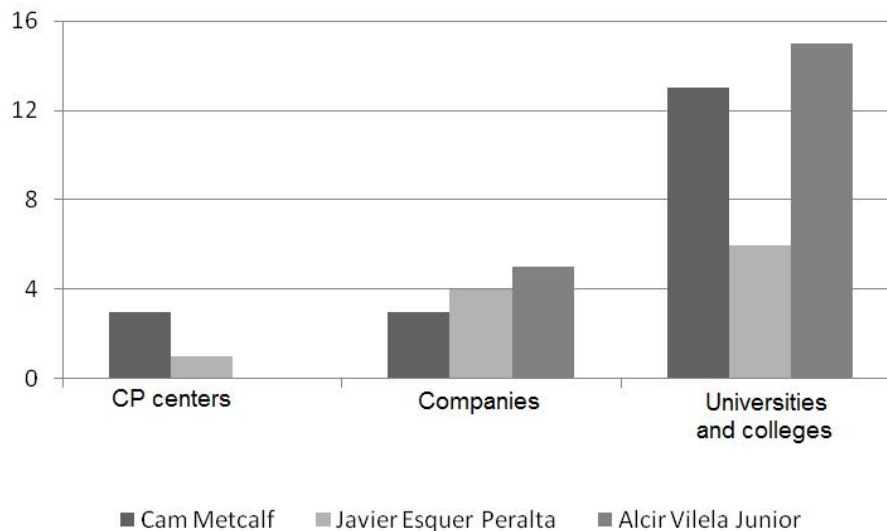


Figure 3. Participants profile in the workshops of the 2nd International Workshop: Advances in Cleaner Production.

Visibility

The visibility of the event and the search for information through the website increased significantly (Figure 4). Three peaks can be observed in which the number of accesses increases significantly. The first corresponds to the 1st Workshop that was held in November 2007. The second peak is related to the Call for Papers for the first special issue of the Journal of Cleaner Production and the third peak with the 2nd Workshop. Since its creation the website had almost 200,000 hits, and last year accesses surpassed the number of 110,000 (Table 2).

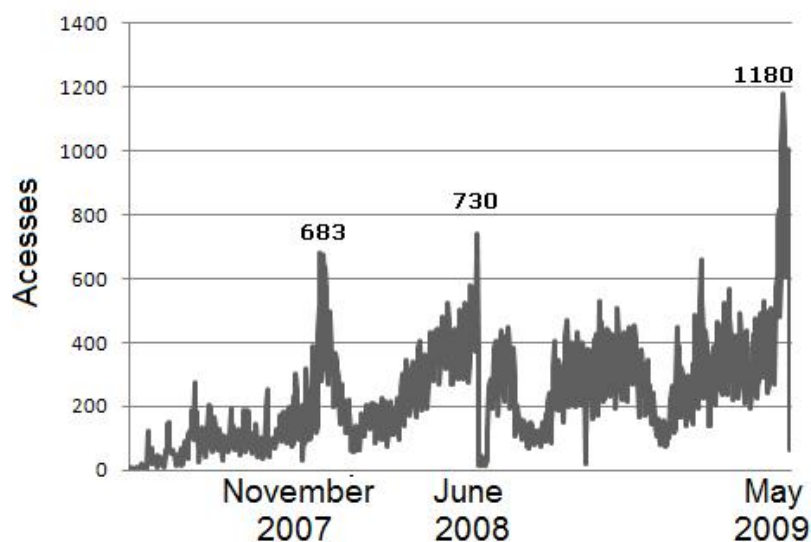


Figure 4. Number of hits at www.advancesincleanerproduction.net from April 2007 to May 2009. The numbers above the peaks correspond to the largest value of daily hits registered.

Table 2. Report of the number of hits at www.advancesincleanerproduction.net by type.

Total sessions	113,526.00
Total impression per page	268,030.00
Total Hits	1,260,858.00
Total Bytes Transferred	38.20 GB
Average sessions per day	310.18
Average page impression per day	732.32
Average hits per day	3,444.97
Average bytes transferred per day	106.88 MB
Average page impression per session	2.36
Average hits per session	11.11
Average bytes transferred per session	352.85 KB
Average length of session	00:04:16

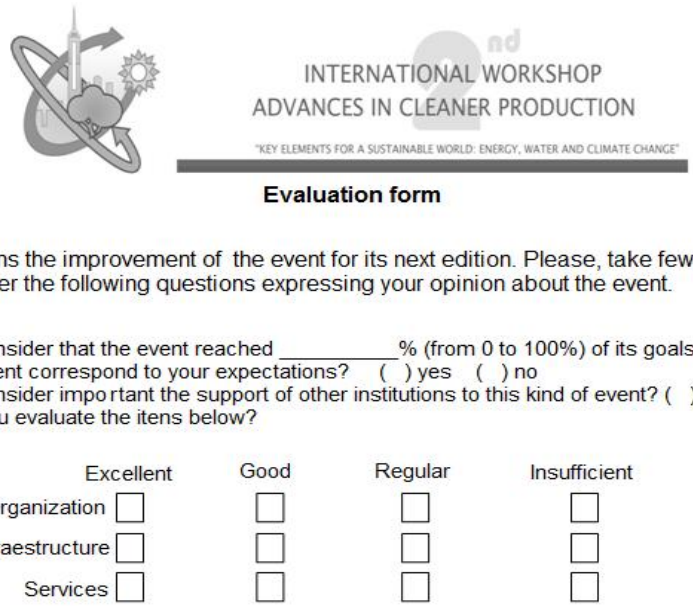
Evaluation of the event according to its goals

It was considered that the event organized and hosted by the Paulista University was a great success, reaching fully its objectives, namely:

- The goal of academic information exchange has been fully achieved, by the significant number of participating academic institutions.
- The presentations of recent achievements made by companies (featuring success stories); eighteen organizational reports were submitted in oral form; institutional reports also were part of the activities. Therefore, this objective was achieved. The event provided contact between academic knowledge and corporate experience.
- The discussion of common problems and routing of solutions was extensively covered by the plenary sessions, oral presentations and, particularly, in the workshops.
- The deepening of the discussion on the fundamental theme of the event "Key Elements for a Sustainable World: energy, water and climate change" was the central issue of the event.

Evaluation of the event according to the public

The audience in the presentation rooms received an oral form for evaluation of the event (Figure 4).



Insert a comment, if you wish:

Figure 4. Evaluation form distributed to participants at the 2nd International Workshop: Advances in Cleaner Production.

Accordingly to the evaluation of 60% of the participants, the event's goals were achieved in more than 90%. On the average score, goals reached 88% of it were expected. The event corresponded to the expectations of all respondents. Partnerships and support of other institutions were considered important by 100% of participants who answered the form. Regarding the organization of the event, 88% consider this item as excellent / good. The facilities were considered excellent / good by 95% of respondents and 98% considered the service excellent / good. There was no assessment insufficient or bad.

Acknowledgements

It is emphasized that the success of the International Workshop would not have been possible without the support of important partners such as FAPESP, CAPES, SENAC and BANCO DO BRASIL, which contributed significantly to the event's achievement.

The Vice Dean of Post Graduate Studies and Research UNIP spared no efforts for the success of the International Workshop, being responsible for the complete infrastructure, including the provision of teachers and students of Tourism course, which are integrated to the Supporting Committee and the Coral UNIP which performed in a masterly way.

The Organizing Committee thanks all the institutions involved and, in particular, lecturers and other participants that made the event possible.

For further information see: www.advancesincleanerproduction.net