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22178

**FINAL REPORT**

**WORKSHOP ON  
“ENVIRONMENTALLY DEGRADABLE POLYMERS:  
POLYMERIC MATERIALS AND THE ENVIRONMENT”**

**21 – 25 March 1999  
DOHA – STATE OF QATAR**

**UNIDO PROJECT NO. : TF/GLO/96/105  
CONTRACT NO. : 99/054**

## Objectives

The main objectives of the workshop are as follows

- To provide participants from developing countries with updated knowledge and information on recently introduced and evolving technologies concerned with environmentally related problems in polymer producing, processing and end of life disposal industries.
- To update the scientific and technological knowledge of the participants in terms of the waste management of polymeric materials and to stimulate planning for the minimization of waste generation.
- To raise industrial, academic and public perceptions on the issues environmental effects of plastics, and to emphasize the positive contributions that manufacturing industries can make including the increased utilization of environmentally degradable polymers (EDPs)
- To stimulate international research and technology transfer and enhance international co-operation through possible, joint, or follow-up projects, and feasibility studies by identifying regional R&D centres in developing countries through contacts established with the participants in the workshop, thus giving ICS the possibility of identifying qualified academic and industrial centres for future joint ventures for the EDPs development

## Organization

The workshop was organized jointly by the International Centre for Science and High Technology (ICS) and the Scientific and Applied Research Centre (SARC) – University of Qatar, and Co-sponsored by Qatar Petrochemical Company (QAPCO) and Qatar Industrial Manufacturing Company (QIMICO).

The local Organizing Committee consisted of :

- Dr. Homaid A. Al-Madfa	Director of SARC, University of Qatar, <b>Chairman</b>
- Dr. Ziad F. M. Said	Fact . Technology, University of Qatar, <b>Coordinator</b>
- Prof. Andrew Wilson	Chemical Engineering Dept., University of Qatar
- Prof. Mohamed Kassim	Physics Dept., University of Qatar
- Dr. Lamees Shahada	Chemistry Dept., University of Qatar
- Eng. Hassan Al-Rashed	Superintendent, Polyethylene Plant, QAPCO
- Dr. Hazim Al-Kadhi	QIMICO

The International Scientific Committee consisted of :

Prof. Stanislav Miertus (ICS, Trieste – Italy)  
Prof. E. Chiellini (University of Pisa – Italy)  
Dr. H. Al – Madfa (SARC – University of Qatar)  
Prof. R. Narayan (Bioplastics Inc., MI – USA)  
Prof. G. Scott (Aston University, Birmingham – UK)  
Prof. S. Kendil (Alexandria University – Egypt)  
Dr. Ziad F. M. Said ( University of Qatar )  
Dr. I. Chodak ( Slovak Academy of Science – Slovakia)  
Dr. Lucie I. Mei (UNICAMP – Brazil)

## **Dates and Venue**

The Workshop was held from 21 to 25 March 1999, in Doha –State of Qatar, at the University administration building, with one day (24 March) dedicated to a visit to QAPCO Industrial Complex in Umsaeed, 40 Km south of Doha.

## **Funding**

The total expenses was U.S. Dollars 49,065 . The amount received from UNIDO was U.S. \$20,000 (as part of \$25,000 estimated in TOR) to cover the travel expenses of all participants and experts. The actual expenses for this purpose were \$18,171. The hosting country contributed with \$30,894 (QAPCO contributed with \$3,000, QIMCO with \$2,000 and the University with \$25,894). The total expenses estimated in TOR was \$63,000 which means that the actual expenses were reduced by about 20%. This is due to the reduced number of participants (Two lecturers and two participants apologized just two days before the workshop) and also the economized procedure followed in providing the air-tickets. In an effort to maximize the utilization of the funds available, the organizing committee asked several travel agents to provide their offers for the most economic fares, at the same time asking the participants to seek for the cheapest fare in their own countries. Five lecturers bought their own tickets and were reimbursed later, while the rest were provided with PTAs, this has saved about \$3000.

Upon agreement of ICS-UNIDO and of the subcontracting office of UNIDO, the left-over of the UNIDO (which amounts to US\$1,829) will be used for the publication of further copies of the proceedings of the workshop which will be sent to ICS-UNIDO.

A summary of the final budget is given in Appendix 1.

## **Participation:**

In total 45 experts participated in the Workshop: 9 keynote speakers and 36 participants.

### ***A- Lecturers (keynote speakers)***

Nine keynote speakers (table – 1) from different institutions and countries have presented a total of 18 lectures covering different aspects of polymer degradation, stability, plastic recycling State of the Art of Environmentally Degradable Polymers and their applications, legal aspects and solid waste management with special emphasis on plastic waste. Most Lecturers have also presented the experience of their own countries in the management of plastic waste. Some have presented samples of new products prepared from EDPs.

### ***B- Participants***

More than 120 application forms and invitation letters were distributed to most of the academic institutions and industrial companies in the region and neighboring countries. A leaflet was also circulated, in addition, the workshop was also advertised on the internet and in local daily newspapers.

36 participants (table – 2) from twelve countries, regularly, attended the workshop making the total number as 45 lecturers and participants, representing 19 countries. Twenty five contributions were presented by the participants making

the total presentations 43, distributed as general lectures, case studies, country reports and research papers.

Participants' affiliations included universities & polytechnics 40%, R & D 14%, Industrial & Environmental Institutions 46%.

**Table – 1. Keynote Lecturers\* of the Workshop**

<b>Lecturer</b>	<b>Institution</b>	<b>Country</b>
S. Miertus **	International centre for Science and High Technology - Trieste	Italy
E. Chiellini	Department of Industrial Chemistry University of Pisa	Italy
R. Narayan	Bioplastics, Inc. Michigan	USA
G. Scott	University of Aston - Birmingham	UK
I. Chodak	Polymer Inst., Slovak Academy of Science	Slovakia
G. Braunegg	Institute of Biotechnology, University of Technology, Graz	Austria
F. Edgecombe	Env. Section, Canadian Plastic Industries Association	Canada
S. Kendil	Postgraduate Research Institute, Alexandria University	Egypt
L. Mei	Campinas State University	Brazil

\* Two more lecturers were also invited (E. Piskin, Hacettepe Univ. Turkey and G. Floridi of Navamont Co. Italy) but lately apologized for sudden illness

\*\* ICS Area Coordinator, Financially covered by UNIDO

**Table – 2. Participants according to countries**

<b>Country</b>	<b>No. of participants</b>
Bahrain	1
Brazil	1
China	1
Egypt	1
India	1
Iran	1
Jordan	2
Kuwait	2
Qatar	22
Saudi Arabia	2
United Arab Emirates	1
Yemen	1

The complete list of participants is attached (Appendix-2)

## **Workshop Materials**

Each participant and lecturer was provided with a small bag containing the workshop package in addition to some complimentary gifts, postcards and information booklets about the country, Brochures about QAPCO and QIMCO. The main workshop materials are:

Aide Memoire

Abstracts of papers

Program (included in the Abstract)

List of all participants with their addresses

Materials provided by ICS:

Selected papers from Trieste EGM meeting, April 1998

Brochure about ICS and its activities

## **Opening Ceremony**

The Opening Ceremony was attended by several invited guests including some Diplomats and Scientific Attachés. The opening speech was by the president of the University of Qatar, Dr. Abdallah S. Al-Khlaifi, followed by ICS – UNIDO area Coordinator Prof. Stanislav Miertus, then the Director of SARC and Chairman of the Organizing Committee, Dr. Homaid Al-Madfa, and finally the Coordinator of the workshop, Dr. Ziad Said. The ceremony was covered by four local daily newspapers, three in Arabic and one in English.

## **Program**

The workshop program was as follows:

March 21<sup>st</sup> – 23<sup>rd</sup>: lectures, four sessions each day, with an average of 3 presentations in each session, time duration for each presentation ranged from 25 to 45 minutes. Each presentation was followed by few minutes discussion. The main topics covered were:

EDPs : four sessions (approximately)

Plastic waste management: four sessions

Case studies: two sessions

country reports: two sessions

March 24<sup>th</sup>: a visit to QAPCO Complex in Umsaeed, where the biggest Low Density Polyethylene plant in the middle east exists. A tour into different sections of the complex was arranged with brief presentations on the various activities of the company. Complementary gifts were distributed to all participants of the workshop.

March 25<sup>th</sup>: Lectures, one session (Recycling) and finally the closing Ceremony ( Detailed program is shown on the first few pages of the book of abstracts)

## **Meetings**

On March 20, a meeting was held at SARC building between Dr. Homaid Al-Madfa and five invited lecturers who arrived one day earlier (S. Miertus, E. Chiellini, G.

Braunegg, F. Edgecombe, and I. Chodak). Dr. Al-Madfa gave a briefing on the activity of SARC and the projects being carried out by its staff. The guests then visited the offices and labs at the building.

On March 22<sup>nd</sup>, a meeting was held comprising the Italian Ambassador, Prof. Stanislav Miertus and Prof. Emo Chiellini at the Italian Embassy. Prof. Miertus and Prof. Chiellini explained the significance of the workshop and the possible future cooperation between Qatar and the ICS.

### **Media Coverage**

On March 21<sup>st</sup>, there were several interviews, by a famous daily news paper, with Prof. Miertus, Prof. Chiellini, Dr. Ziad Said, and three other participants. During the workshop period each of the three main daily news papers published a daily report on the activities of the workshop.

On March 23<sup>rd</sup> a popular daily TV program devoted 20 minutes ( from its one hour) for the workshop with an interview with Dr. Homaid Al-Madfa and Prof. Emo Chiellini. During the interview the aims of the workshop and the significance of using EDPs were explained in a simple manner understandable by public. Samples of EDPs and slides were shown on the screen.

On the same day a half-hour weekly radio program was devoted to the workshop with an interview with Dr. Ziad Said (the Coordinator), Dr. K. Al-Hassan from Jordan and Dr. E. Kenaway from Egypt. The interviewee answered questions covering most of the aspects related to workshop topics, its possible future impact and outcome, in addition to questions related to their contributions.

### **Social Events**

The following social events were organized during the workshop:

Saturday March 20 (evening): Reception at Oasis Hotel

Sunday March 21<sup>st</sup> : Dinner at Shabastan Resturant (invitation by the University of Qatar)

Monday March 22<sup>nd</sup> : Dinner at Al-Bander Restaurant near Doha Port (invitation by QIMC)

Tuesday March 23<sup>rd</sup>: Barbecue at Al-Shatti club – arranged by Oasis hotel

Wednesday March 24<sup>th</sup> : QAPCO invited the participants for lunch at Sealink restaurant at the magnificent Sileen resort on the Sea.

### **Assessment**

Assessment of the workshop was performed by an optional questionnaire distributed to participants. A summary of this assessment is given in table – 3 . According to the result of this assessment the workshop was very successful and the organization was excellent, most evaluations have been from very good to excellent.

Most participants consider the information process, applied lectures, case studies, time of lectures, lecture room, breaks and refreshment, organizer response to participants need and the overall program organization as excellent. Most of them consider the announcement and the pre-workshop materials, the scientific program, hotel accommodation and hotel meals as very good.

The question on working groups have not been answered by many participants which is due to the fact that this question is not very relevant to a workshop but more suitable for a training course.

All participants would recommend others to attend a similar activity.

Most participants consider the topics discussed are very useful and important for industries and municipalities, as it was shown how to solve the problems associated with plastics waste. Some have suggested to include more visits to industrial sites. Finally several participants have recommended an earlier announcement for any similar activity so that to give time for better presentations and collecting the necessary information.

**Table – 3. Summary of the Questionnaire**

<b>A. Organization</b>	Excellent (%)	Very good (%)	Good (%)	Fair (%)	No Answer (%)
Information Process	50.0	36.5	13.5	0.0	0.0
Announcement	36.5	45.5	13.5	4.5	0.0
Scientific Program	27.5	63.5	9.0	0.0	0.0
Applied lectures	45.5	32.0	13.5	4.5	4.5
Small working groups	13.5	27.5	13.5	18.5	27.5
Case studies	36.5	32.0	23.0	0.0	8.5
Time of lectures	36.5	27.5	18.5	9.0	8.5

<b>Students Scientific Knowledge</b>	Balanced	Unbalanced	No Answer
	45.5 %	13.5 %	41.0 %

<b>B. Duration of program</b>	Just Right %	Too long %	Too short %
No. of days	72.7	27.3	0.0
Length of working days	55.0	45.0	0.0

<b>C. Training Facilities &amp; Hotel</b>	Excellent %	Very good %	Good %	Fair %	No answer %
Lecture / Training room	73	18	4.5	0.0	4.5
Breaks/ Refreshments	45.0	41.5	9.0	4.5	0.0
Hotel accommodation	23.0	41.0	18	0.0	18
Meals at the hotel	23.0	36.5	18	4.5	18
<b>D. Organizer Response</b>	68.5	18.0	9.0	0.0	4.5
<b>E. Overall Organization</b>	54.5	32.0	13.5	0.0	0.0

	Yes %	May be %	No %
<b>F. would you recommend to others to attend similar activity in the future?</b>	100.0	0.0	0.0



## **Closing Ceremony**

The closing ceremony session, started at 11.00 hour, March 25<sup>th</sup>, was chaired by **Dr. Saif Al-Hagary** from the Geology Department, University of Qatar, and the founder of the Centre of Environment Friends in Qatar. He talked briefly about the activity of the centre saying that it is approaching the new generation (students) by teaching and educating them with information on fundamentals about the importance and significance of recycling, on sorting plastics, metals and papers and how to translate these information to become a daily behavior.

Then **Professor Miertus** presented a general approach on how ICS used, in the last two years, to follow up these activities by:

- Follow-up seminars which could be on general or more specialized aspects
- Publishing of proceedings
- Establishing a regional network connected to ICS – UNIDO network and data base for collecting updated information on EDPs, plastic waste management, etc. and identifying experts and institutions working in the field.

He also explained that possible project proposals could be within any of the following topics:

- ◆ Technology transfer of new materials (e.g. EDPs) from industrialized countries to developing countries
- ◆ Joint research projects
- ◆ Feasibility studies
- ◆ Programs evaluation
- ◆ Consultancy and Technology evaluation

Then there was a general discussion between several participants and experts in which there were several contributions and suggestions ( please see the paragraph on conclusions and general remarks ). **Professor Miertus** answered several questions about the legal aspects and the guide lines being prepared so far which UNIDO is following in implementing its policy.

After that **Professor Chiellini** presented his final remarks and notes in which he answered several raised technical questions, especially those associated with EDPs and their future prospects. He explained that it is not the policy of ICS – UNIDO to oppose the development of the more sustainable plastics as might be thought, EDPs are not the alternative for all polymers, they constitute an alternative in certain sectors of plastic utilization; and an option, coexisting with others available, for management of plastic waste ( please refer to the paragraph on conclusions and general remarks ).

Finally **Dr. Homaid Al-Madfa** delivered the farewell speech and presented the participants with complimentary gifts (certificates were posted later to all participants).

## **Results**

the workshop was successful and has achieved its objectives. This can be shown from:

- the assessment of the participants,
- the discussions and the final conclusive remarks,
- and the acknowledgement letters received from various lecturers and participants (appendix-3)

A greater concern and awareness of the environmental issues associated with plastic consumption and applications have been raised, EDPs and their possible applications are more understood, perceptions have been improved on certain environmental issues such as recycling and other options of waste management. Updated information on the latest technologies in the field have been exchanged between researchers, industrialists and environmentalists from nineteen countries. A regional network and proposals for future projects are being discussed.

Dr. Al-Madfa is responsible for submitting to ICS-UNIDO a draft project concept.

## **Conclusive Remarks**

Professor Emo Chiellini in the final session of the Workshop, recalled to the attention of the audience, on the major points and aspects that were presented and debated during the four working days of the Workshop.

1. Proactive position and role of ICS-UNIDO in the diffusion of fundamental concepts and available technology for EDPs and polymeric materials for a sustainable industrial development.
2. The world production of polymeric materials and plastics manufacture are expanding in the next future parallel to the increase of the life standards and productivity levels of the developing countries and countries in transition. An increase in waste production and hence in plastic waste is expected.
3. Correct management of waste in general and plastic waste in particular is an urging demand that is going to become more stringent and pushing in the future.
4. Various options aimed at identifying a fair and harmonized solution to the plastic waste burden, were presented and amply debated. Reuse of post-consume plastic items, recovery of plastic waste for the energy content or as material sources for mechanical and chemical recycling and Design of Environmentally Degradable Polymeric Materials and Plastics (EDPs) as an option for recovery of the relevant waste via a biochemical recycling constituted the major items of interest in the Workshop menu.

5. EDPs present status on R&D, technology and market inventory of materials, products and companies.
6. EDPs as suitable options in plastic market segments in which the use of non-environmentally degradable plastics is going to negatively influence the overall economical balance that has to be envisioned in the modern concept of "*from cradle-to-grave*" a must that will affect and drive the future industrial development.
7. Drivers for development of degradable plastics. Environmental preservation policy for improvement of the quality of the life.
8. Feedstock sources for EDPs. Fossil fuel. Renewable resources - synthetics - semisynthetic - naturals (animal - vegetal origin).
9. Polymeric materials for the future revisiting of well consolidated polymeric materials and technologies. LCA - Life Cycle Analysis. Sustainability in productive processes. Sustainable technology.
10. EDPs - Biotic and Abiotic degradation. Chemical - Physical - Photophysical - thermal controlled condition - Definition of infrastructures - Environmental conditions and time frame.
11. Legal issues and standards for an harmonised solution to plastic waste.
12. Pros and cons in production, marketing usage of EDPs in comparison to commodity plastics.
13. Actual and potential segments in which EDPs are used or can find applications.
14. Case studies and country reports.
15. Plastic waste management. Modelling options for PWM and position of EDPs.

**Appendix - 1**  
**Summary of the Final Budget**

<b>A- UNIDO CONTRIBUTION</b>		
<b>Description</b>	<b>Amount in US Dollar as estimated in TOR</b>	<b>Actual expenses (US Dollars)</b>
Travel of invited Speakers	12,000	9,711
Travel of participants	13,000	8,460
Subtotal		<b>18171</b>
Amount received from UNIDO		<b>20,000</b>

<b>B- CONTRIBUTION OF THE HOSTING COUNTRY (QATAR)</b>		
Accommodation of Speakers & participants	25,500	14,600
Expenses for participants from Qatar	400	0.000
Transport	800	1,000
Secretarial work including fax, stationary, postage, telephones, etc.	2,000	2,000
Advertisements & Workshop bags	1,800	1,600
Reception and Refreshments	2,000	1,500
Dinner parties	2,000	2,700
Printing of Abstracts*, certificates & proceedings**	2,500	2,934
Rewards for members of organization committee, secretarial staff & drivers	0.000	3,560
Miscellaneous	1,000	1,000
<b>Subtotal</b>	<b>38,000</b>	<b>30,894</b>

\* Abstract & certificates cost \$1,014

\*\* There is an offer to print 150 copies of proceeding with \$1,920

**ICS-UNIDO International Workshop on  
Environmentally Degradable Polymers:  
“ Polymeric Materials and the Environment”  
University of Qatar – Doha – Qatar  
March 21-25, 1999**

**Appendix – 2**  
**List of Participants**

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<b>Prof. Andrew J. Wilson</b>	Chemical Engineering Department, University of Qatar, p. O. Box 2713 Doha – Qatar Fax: +974-892491
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<b>Dr. M. I. Raouf</b>	Scientific & Applied Research Centre (SARC), University of Qatar P. O. Box 2713, Doha – Qatar Fax: +974-860680 E-mail: <a href="mailto:sarc@qu.edu.qa">sarc@qu.edu.qa</a>
<b>Dr. Mohammed A. Anwari</b>	Faculty of Technology, University of Qatar, P. O. Box: 2713 Fax: +974-880337 E-mail: <a href="mailto:m.anwari@qu.edu.qa">m.anwari@qu.edu.qa</a>
<b>Meriam M. Al-Ali</b>	Physics Department, University of Qatar, P. O. Box 2713, Doha-Qatar Fax: +974-835061



**ACKNOWLEDGMENT LETTERS**



**INTERNATIONAL CENTRE FOR SCIENCE  
AND HIGH TECHNOLOGY**

*Area Science Park, Building L2, Padriciano 99, 34012 Trieste, Italy  
Phone: +39-40-922-8110/114 Fax: +39-40-922-8115*

Trieste, 30 March 1999  
SM/pv

Dear Dr. Said,

I would like to thank you for your precious work for the successful organization of the Workshop on Environmentally Degradable Polymers: Polymeric Materials and the Environment", held at the University of Qatar, in Doha, from 21 to 26 March 1999.

I have very much appreciated the whole organization, which has certainly contributed to the high quality of this event.

I am sure the Workshop will be the starting point of a fruitful cooperation between ICS-UNIDO and the Institutions and Industries in Qatar, and I hope we will have a further opportunity to avail ourselves of your expertise and competence.

With best regards, I remain

Yours sincerely

Professor Stanislav Miertus  
ICS Area Coordinator  
Pure and Applied Chemistry

Dr. Ziad Sajd  
Scientific and Applied Research Centre  
University of Qatar  
P.O. Box 2713 / Doha - Qatar  
Fax: +974-880337

**From:** Ideisan Ibrahim Abu Abdoun <abuabdoun@sharjah.ac.ae>  
**To:** said@qu.edu.qa <said@qu.edu.qa>  
**Date:** 03/April/1999 12:00 ص  
**Subject:** Thank you

---

Dear Dr Z. Said

I would like to thank you very much for your excellent organization to the ICS-UNIDO Workshop held in Qatar 21-25 March 1999. I think that the exchange of ideas and information conducted in such important activity should be supported and repeated in the future. I am very pleased that I was able to attend this workshop.

Thank you once again for a job well-done, and I hope we meet again in another meeting.

With best personal regards to you and all at Qatar University.

Yours sincerley,

Dr. Ideisan I. Abu-Abdoun  
Sharjah University



April 9, 1999

Dr. Homaid Al-Madfa, Director  
Scientific and Applied Research Centre  
University of Qatar  
P.O. Box 2713  
Doha, Qatar  
Arabian Gulf

Dear Dr. Al-Madfa:

I wish to express my gratitude to you and your staff for arranging the most excellent seminar on biodegradable plastics and plastics in the environment.

The facilities which were provided were excellent and the generous hospitality extended by the University was, in my experience, unparalleled.

Please convey my appreciation to Dr. Zaid Said for all of the long hours he put in arranging flights, visas and attending to the myriad of other details involved in bringing together a group from around the world.

Very sincerely yours,

A handwritten signature in black ink, appearing to read "Fred Edgecombe", written in a cursive style.

Dr. Fred Edgecombe

/ab



5925 Airport Road, Suite 500, Mississauga, Ontario L4V 1W1  
Tel (905) 678-7748 Fax (905) 678-0774  
A Council of the Canadian Plastics Industry Association



Dr. Homaid Al-Madfa  
Scientific Applied Research Centre  
University of Qatar  
P.O.Box 2713  
Doha, Qatar

Fax. 0097 4 860680

This is to thank you for inviting me to contribute to the course on "Environmentally Degradable Polymers: Polymeric Materials and the Environment" which was held at the University of Qatar, Doha, March 1999. It was my honour to be able to work with you towards conveying some of the aspects of this important concept: materials for the environment, to the regional community.

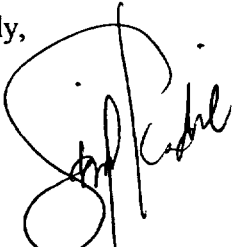
Visiting Doha, the university of Qatar and SARC was a stimulating and enjoyable experience.

Thank you once more for all the arrangements and hospitality, and I look forward to welcome you in Alexandria in future events.

All my best wishes....

Yours sincerely,

Sherif Kandil

  
2/4/1999  
عائشة د. نقدر

From: Fred Edgecombe <fedgecombe@cpia.ca>  
To: 'Dr. Ziad F. M. Said' <said@qu.edu.qa>  
Date: 05/April/1999 06:02 م  
Subject: RE: Acknowledgement

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Dear Dr. Said;

I am very grateful for all of your assistance before and during the meeting in Doha. Without your effort the meeting would not have been successful. Please keep in touch. If I may be of any assistance please call upon me.

Kindest Regards,  
Fred Edgecombe.

**From:** Braunegg@biote.tu-graz.ac.at <Braunegg@biote.tu-graz.ac.at>  
**To:** Dr. Ziad F. M. Said <said@qu.edu.qa>  
**Date:** 02/April/1999 08:53 ص  
**Subject:** Re: Acknowledgement

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Dear Ziad,

Thanks for your mail. And many thanks again for all your friendliness and hospitality during this event. Congratulations to your organization of this excellent workshop.

All the best

Gerhart

**From:** Ing. Chodák <upolchiv@savba.sk>  
**To:** 'Dr. Ziad F. M. Said' <said@qu.edu.qa>  
**Date:** 31/March/1999 08:48 ص  
**Subject:** RE: Thank you, Ziad

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Dear Ziad,

I would like to thank you once more for the hospitality and your effort to make our stay in Qatar as pleasant as possible. We both had a great time. I am looking forward to meeting you in Slovakia in October.

Sincerely yours

Ivan and Luba



**From:** Dr. R.P. Singh <singh@poly.ncl.res.in>  
**To:** Dr. Ziad F. M. Said <said@qu.edu.qa>  
**Date:** 29/March/1999 02:00 م  
**Subject:** mail from Dr.R.P.Singh

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Dear Dr.Said,

I reached here on 26-3-99 and everything was o.k. in my flight . Your hospitality and arrangements were very good except my travel which was not well solved . Thanks a lot for your warm welcome and farewell .

With regards,  
Yours sincerely  
R.P.Singh

**From:** Shao Zhengzhong <zzshao@fudan.edu.cn>  
**To:** Dr. Ziad F. M. Said <said@qu.edu.qa>  
**Date:** 01/April/1999 11:11 ص  
**Subject:** thank you

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Dear Zaid,

Thank you very much for your hospitality during the stay of mine in Qatar. I really enjoyed it. Hopefully we will meet in Shanghai soon.

All the best  
Shao

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Dr.Zhengzhong Shao Telephone: +86 21 65642866  
Department of Macromolecular Science Fax: +86 21 65640293  
Fudan University Email: [zzshao@fudan.edu.cn](mailto:zzshao@fudan.edu.cn)  
Shanghai 200433 China

Return-Path: <reena@kuc01.kuniv.edu.kw>  
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X-Mailer: Windows Eudora Pro Version 3.0.1 (32)  
Date: Sat, 17 Apr 1999 10:28:12 +0300  
**To:** said@qu.edu.qa  
**From:** "Dr.REENA" <reena@kuc01.kuniv.edu.kw>  
**Subject:** personal  
Mime-Version: 1.0  
Content-Type: text/plain; charset="us-ascii"

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Dear DR.Zaid,

Thank you very much for your kind help and hospitality.  
The workshop was really very  
interesting and I felt it as a great opportunity to meet  
people who are doing research work in the same field. I  
am looking forward in receiving the workshop proceedings  
from you. When do you think I will be receiving it?  
Please convey my best regards to your family. Hope  
all of you are doing fine. If you need anything regarding  
latex waste recycling please don't hesitate to contact  
me. I remain,

WITH BEST REGARDS,  
REENA.

From: Lucia H.I. Mei <lumeibit@ntp.feq.unicamp.br>  
To: Dr. Ziad F. M. Said <said@qu.edu.qa>  
Date: 05/April/1999 04:08  
Subject: Re: Acknowledgement

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Dear Dr. Ziad

Sorry for being late to write but I arrived in Brazil only on april 1rst.  
I'd like to thank you and your wife for your hospitality and kind attention during the Workshop in Doha. Please, say to Mrs. Said that I appreciated her gift and that I am using it a lot. Be sure that the Workshop was excellent and I 'd like to take this opportunity send you my congratulations for the excellent job you have done.  
Finally, as I didn't receive the addresses list of all participants, I'd like to ask you to thank all those people that organized the Workshop, in special Dr. Madfa and Ms. Lamies (?) for their kind attention.  
Looking forward to seeing you in another meeting, I remain with my best regards.

Lucia Mei

**From:** Leila Peres <lperes@ntp.feq.unicamp.br>  
**To:** Dr. Ziad F. M. Said <said@qu.edu.qa>  
**Date:** 05/April/1999 05:21 م  
**Subject:** Re: Acknowledgement-Leila Peres

---

Dear Dr. Ziad,

I would like to thank you and all the members of the Organizing Committee for the pleasant time I have spent in Qatar during the ICS-UNIDO Workshop.

I have really appreciated your effort in giving me the better treatment and attention you could.

I have arrived in Brazil safely and I'm waiting for your and your colleagues visits soon in Brazil.

Best Regards

Leila Peres

**Professor Gerald Scott, MA, MSc, DSc, FRSC, FIM**

Robingate, Low Row, Richmond, North Yorkshire DL11 6PJ

Tel & FAX 01748 886217

Dr.H.A.Al-Madfa/Dr.Ziad Said  
Scientific & Applied Research Centre  
University of Qatar  
P.O. Box 2713  
Doha  
Qatar

BY FAX 0974 860680  
April 7 1999

Dear Colleagues

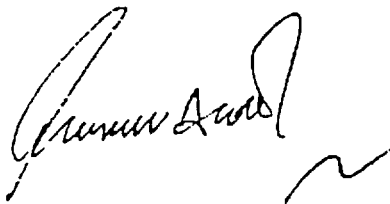
ICS-UNIDO WORKSHOP: MARCH 21-25 1999

Congratulations on the excellent organisation of the above Workshop. I am sending by airmail the text of my lecture *Environmentally Degradable Polymers in Waste Management* as promised. I have also enclosed the disc from a Canon StarWriter 60 which was used for its preparation.

I look forward to seeing the proceedings in print.

With regards and best wishes,

Yours sincerely,



Professor G.Scott.

Return-Path: <RNarayan@compuserve.com>  
Receive from dub-img-10.compuserve.com ([149.174.206.140])  
by ccs1.qu.edu.qa (Netscape Mail Server v1.1)  
with ESMTP  
id AAA224 for <said@qu.edu.qa>; Fri, 30 Apr  
1999 07:29:05 +0300  
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for said@qu.edu.qa; Fri, 30 Apr 1999 00:27:15 -0400  
(EDT)  
Date: Fri, 30 Apr 1999 00:26:55 -0400  
**From:** "R.Narayan" <RNarayan@compuserve.com>  
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**Sender:** "R.Narayan" <RNarayan@compuserve.com>  
**To:** "'Dr. Ziad F. M. Said'" <said@qu.edu.qa>  
Message-ID: <199904300027\_MC2-7402-50ED@compuserve.com>  
MIME-Version: 1.0  
Content-Transfer-Encoding: quoted-printable  
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Dear Ziad:

Greetings! Hopefully, you have recovered from an outstanding effort in organizing a great workshop. You should consider putting together a proposal for new biodegradable polyesters using petrochemical feedstocks which Qapoco could fund.

Thank you for your hospitality, support and cooperation  
Warm regards

Ramani Narayan  
Professor of Chemical & Biochemical Engineering  
Michigan State University  
Tel: (517) 432-0775  
Fax: (517) 432-1105  
Email: rnarayan@compuserve.com  
Visit web site: <http://www.msu.edu/user/narayan>