Pacifichem 2010 で開催されたリサイクルシンポジウムの概要

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2010 年 12 月 15 日から 6 日間、米国ハワイ州ホノルルのコンベンションセンターで環太平洋国際化学会議（International Chemical Congress of Pacific Basin Societies, Pacifichem 2010）が開催されました。本会議では 5 つの中心領域（分析化学、無機化学、高分子化学、有機化学、物理化学）、4 つの学際領域（農業化学、生物化学、環境化学、材料化学）および 4 つの新領域（代替エネルギー、化学交流、健康、安全）からなる 235 のシンポジウムが開催され、72 ヶ国から 13664 人が参加しました。特に表 1 に示すように日本からの参加者が 6430 人と 2 位の主催国である米国を 2 倍以上も上回っており、日本人のハワイ好きが改めて証明された結果となりました。

プラスチックリサイクル化学研究会が主催した廃高分子リサイクルシンポジウムは、12 月 18 日に口頭発表（30 件）、翌 19 日にポスター発表（15 件）が開催されました。下記のプログラムに示すように大部分の発表は、FSRJ に所属する日本人研究者からのものでしたが、中国 4 件、韓国 2 件、インド 1 件で、特に米国から「廃プラスチックからの自動車用燃料の製造」および「可動式廃タイヤ処理装置」の 2 件の発表があったことは、今後の廃プラスチックのリサイクルに関する研究を世界へ広げる上で注目すべき点と言えます。

シンポジウムの公式行事が終了した 12 月 19 日の夜、非公式のシンポジウムパーティーを開催し、ハワイの夜を参加者全員で楽しく過ごしました。

表 1　国別参加者数

	国名	参加数
1	日本	6,430
2	米国	2,992
3	カナダ	923
4	韓国	782
5	中国	521
6	オーストラリア	364
7	ドイツ	281
8	英国	185
9	台湾	155
10	フランス	117

プログラム

Recycling of Polymeric Waste Materials: Challenges and Perspectives (#86) [1A]
Organized by T. Yoshioka, S. Chung, B. Thallada, Y. Wang
2010/12/18　319B (Convention Center) Oral

１部　7:30 AM-11:30 AM

376. Proposal of smaller-life-style assessment (SLSA) to the plastic life cycle
A. Oku
377. New alternative vehicle fuels from abundant solid waste plastics
M. Sarker
378. Removal of bromine containing compounds from flame retarded high impact polystyrene
G. Grause; D. Karakita; H. Tanaka; T. Bhaskar; T. Kameda; T. Yoshioka
379. Use of supercritical alcohol for effective plastic chemical recycling
A. Kamimura
380. Recovery of metals using PVC as a chlorination agent S. Fukushima;
G. Grause; T. Kameda; T. Yoshioka
381. Fuel oil from polymers of waste electric and electronic equipments
Q. Zhou; Y. Wang; J. M. Van Kasteren
382. Production of clean and high-calory powdery fuel from mixture of waste plastics and garbage using subcritical water　T. Sako; Y. Fujimori; I. Okajima
383. Liquefaction of printed circuit board by using waste biomass derived tar
Z. Zou; T. Kamo ; H. Yasuda ; M. Adachi ; H. Nakagome
384. Pyrolysis of polyolefins using modified fly ash
J. M. Van Kasteren; Q. Zhou
385. Pyrolysis characteristics of oil shale with waste plastics
J. Na; J. Kim; Y. K. Park; S. Chung
386. Producing naphtha from mixed waste plastic
H. Tani; H. Haga; K. Fujimoto; T. Yamawaki
387. Examination of small-size liquefaction plant for waste mixed plastics
M. Z. Hlaing; M. Adachi; S. Suzuki; S. Kodama; S. Kimura; H. Nakagome

２部　12:30 PM-4:30 PM

425. Supercritical fluid technology for feedstock recycling of waste plastics
M. Goto
426. Separation of chlorinated plastic film by thermal fusion bonding
T. Okuda; M. Srinivasa Reddy; Y. Akasaka; S. Nakai; W. Nishijima; M. Okada
427. Development of highly efficient recycling technology for multilayer films
T. Yamawaki
428. Steam gasification of plastics in end-of-life electronic equipments in the presence of various carbonates
T. Kamo; S. Zhang; D. Jin; H. Yasuda; K. Yoshikawa; T. Namioka; H. Nakagome
429. Electron beam initiated graft modification of cotton and preparation of high performance metal adsorbent.
D. Parajuli; K. Hirota
430. Improvement of the benzene yield from the pyrolysis of terephthalic acid using CaO S.
Kumagai; G. Grause; T. Kameda; T. Yoshioka
431. Recycling of electronic devices composed of thermosetting resin and inorganic compounds in high-temperature water　H. Tagaya; H. Sato; S. Itagaki
432. Structure and thermolysis behavior of poly(vinyl chloride) samples prepared by various polymerization methods　Y. Tsuchiya; K. Endo
433. Current status and issues of the plastic recycling in Japan
N. Kusakawa
434. Emission behavior of chlorine compounds on pyrolysis, gasification or combustion of poly(chloro ethanediyl)
Y. Sekine

435. High performance recycling system for shredded plastics based on high-speed Raman spectroscopy identification H. Kawazumi; A. Tsuchida; K. Arikata; Y. Tsuchida
436. Portable pyrolysis reactor for clean recycling of large off road tires and other material
W. M. Stalick; S. McKay; H. Buhr

３部　7:00 PM-9:00 PM
491. Sustainable biofuels and chemicals from lignocellulosic biomass
B. Thallada
492. Explosive decomposition of lignocellulose in pyrolysis of wood–metal salt mixture at relatively low temperature. O. Terakado; W. Masuda; M. Yamamura; M. Hirasawa
493. Deoiled seed cakes of Pongamia glabra and Mesua ferrea as potential feed-stocks for thermochemical conversion R. Kataki; R. S. Chutia
494. Restoration of seaweed beds by supplying iron-humates from steel slag and humus materials
M. Yamamoto; M. Fukushima; K. Otsuka; T. Komai; D. Liu
495. Effect of the pH on the hydrogen production from lactic acid by anaerobic fermentation
M. Igarashi; G. Grause; T. Kameda; T. Yoshioka
496. Feasibility study for commercialization of waste tire pyrolysis plant with disk moving tube reactor system
H. Park; S. Chung; D. Kim

2010/12/19　Kamehameha Halls II and III (Convention Center)
４部　10:00 AM-12:00 PM Poster
579. Fuel-gas production for asbestos treatment through coprocessing with waste plastics
Y. Kodera; K. Sakamoto; H. Sekiguchi
580. Depolymerization of cellulose in supercritical MeOH
A. Fujita; K. Yamada; A. Kamimura
581. Recovery of bisphenol A from polycarbonate by steam hydrolysis using a fluidized bed
T. Tsuji; S. Fukuda; T. Sugawara
582. Studies on gasification characteristics of urethane/styrofoam wastes generated from electric home appliances
Y. Seo; S. Cho; H. Jung; J. Lee; K. Lee
583. Nitrogen removal via nitrite from municipal wastewater using a continuous anaerobic-anoxic-aerobic (A_2O) process at normal temperatures W. Zeng; L. Li; Y. Yang; S. Wang; Y. Peng
584. Removal of oligomers from poly(ethylene terephthalate) materials with hydrothermal extraction treatment
J. Inagaki; K. Ito; K. Hirae; M. Sasaki; M. Goto
585. Effect of chemical pretreatment on municipal waste sludge hydrolysis and acidification in a pilot upflow anaerobic fermentation reactor. W. Shuying; G. Yongqing; Z. Jingyu; P. Yongzhen; P. Chengyao; C. Youwei
586. Recycling of carbon fibers from carbon fiber reinforced plastics through solvothermal process
K. Nasu; K. Mori; Y. Kuwahara; M. Sasaki; M. Goto; Y. Itakura
587. Treatment of phenol resin foam powder and prepolymer in high-temperature fluids
T. Sugeno; H. Tagaya
588. Development of new technology for crushing biomass
K. Ishikawa
589. Recovery of organic chemicals and inorganic materials by the treatment of plastic–inorganic composites in high-temperature water. H. Sato; T. Sugeno; H. Tagaya
590. Mechanism of polycarbonate hydrolysis in high pressure high temperature steam
Y. Matsuo; M. Watanabe; H. Inomata
591. Study on the recycling technology of waste polycarbonate
S. Suzuki; O. Yuji; Z. Hlaing; A. Mariko; M. Ota; S. Uchiyama; H. Nakagome
592. Chemical recycling of carbon fiber reinforced plastic with sub- or supercritical fluids
I. Okajima; M. Hiramatsu; T. Sako
593. Study on the recovery of precious metals using amine derivatives of cotton
K. Hirota; D. Parajuli