

CENTER OF EXCELLENCE
on
APPLIED RESEARCH, TRAINING AND
EDUCATION IN LIPID SCIENCE
Established at
HARCOURT BUTLER TECHNOLOGICAL
INSTITUTE, KANPUR- 208002
U.P.

The center of excellence established at H.B.T.I., Kanpur is focused on the research activities related to the following thematic areas:

- Oleo-chemicals and advanced oil processing technologies
- Novel surfactants, eco-efficient soaps and detergents
- Renewable feedstock based technologies for lubricants and fuels
- Nutraceuticals, bioactive compounds
- Eco-efficient polymers and coatings

GRANT SANCTIONED/ RELEASED for COE

- Total grant sanctioned: 5.00 Cr.
- Total grant released: 2.00 Cr.
- Total grant received by institute: 2.00 Cr. on 15.11.2013

Management Committee for COE

- Head of COE- Prof. M.C. Shukla, Director, H.B.T.I.
- Executive Head of COE- Prof. V. K. Tyagi, Coordinator of COE
- Member Secretary- Dr. P.K.S. Yadav
- Members of management council: All members of COE
- Faculty Members to be hired: 04
- Manager to be hired: 01
- Clerk/ Accountant/Assistants to be hired: 03
- Contractual staff to be hired: as desired

Members of the COE

- Prof. R. P. Singh
- Prof. V. K . Tyagi
- Prof. R.K. Trivedi
- Dr. M.Bajpai
- Dr. P. K .S . Yadav
- Prof. Pramod Kumar
- Dr. P. K. Kamani
- Dr. Arun Maithani
- Dr. Indira Nigam
- Dr. Reena Singhal
- Dr. Depak Srivastava

Procurement Committee

- Prof. R.P. Singh- Chairman
- Prof. S.K. Upadhyay- Member
- Prof. V.K. Tyagi- Member
- Dr. P.K.S. Yadav- Member

Activities undertaken in COE

- Workshop on thematic area
- Procurement of equipment's
- Enhancement of Faculty Competence
- Establishment of Knowledge resource center
- Research Publications

Workshop on thematic area

- Workshop on Advances in Soaps and Detergents was organized during March 27-28, 2014 at H.B.T.I., Kanpur
- About ten expert lectures were delivered from senior people from academia and industry viz. I.I.T., Kanpur, H.B.T.I., Kanpur, CCPIL, New Delhi, Corona Plus Industries, Kanpur, Biomass, Kanpur etc
- There were deliberations on the latest trends in the raw materials, process and product development technologies, quality assurance, packaging technologies and innovations in the machinery used for production of soaps and detergents along with innovative marketing strategies for these FMCG's
- The workshop was attended by more than 300 students, faculty and industry people

Procurement of equipment's

- Equipment's worth Rs. 99.00 Lacs (Tentative) have been uploaded in the PMSS of TEQIP-II
- The following three equipment's
 - UV-VIS Spectrophotometer (Tentative Cost: Rs. 5.00 Lacs)
 - Rotary Evaporator (Tentative Cost: Rs. 7.00 Lacs)
 - SAFTEST Analyzer (Tentative Cost: Rs. 7.00 Lacs)under window shopping are in process of procurement
- Other three equipment's
 - Automatic Bomb Calorimeter (Tentative Cost: Rs. 15.00 Lacs)
 - Gas Chromatograph (Tentative Cost: Rs. 15.00 Lacs)
 - Hybrid SFC/UHPLC (Tentative Cost: Rs. 50.00 Lacs)were uploaded in the PMSS but could not be tendered due to General Elections-2014

Enhancement of Faculty Competence

- To keep abreast with the latest technological advancement in the thematic area the faculty members will undergo training in the industries and research organizations working in the thematic areas
- Prof. V.K. Tyagi and Dr. P.K.S. Yadav will go for one week training at Godrej Consumer Products Ltd., Gwalior
- Prof. R.K.Trivedi will go for one week training at Rohit Surfactants Pvt. Ltd., Haridwar
- Dr. Madhu Bajpai will Go for one week training at Dinesh Oil Mills Ltd. At Kanpur

Establishment of Knowledge resource center

- An appropriate location for establishing the knowledge resource center under the COE has been identified at H.B.T.I., Kanpur and has been allotted for the purpose of COE activities

Research Publications

- The members of the COE are engaged in the research activities related to the thematic areas.

List of Publications

- Gunjan and V. K. Tyagi, Synthesis of Rice Bran Fatty Acids (RBFAs) based cationic surfactants and their properties in mixed surfactant systems a research paper accepted in ***Tenside Surfactants Detergents***, 2014.
- Shilpa Tyagi and V. K. Tyagi, "Novel cationic gemini surfactants: Synthesis and antimicrobial activity" a review paper accepted in ***Tenside Surfactants Detergents***, 2013.
- Divya Tripathy and V. K. Tyagi, "Effect of fatty imidazolines on properties of laundry detergent compositions based on cationic surfactants", ***IOSR-JAC***, Vol. 7 (5), 59-68 (2014).
- Ayushi Singh and V. K. Tyagi, "Arginine Based Novel Cationic Surfactants: A Review", ***Tenside Surfactants Detergents***, Vol. 51 (3), 202-214 (2014).

List of publications (Contd.)

- Sakshi Tyagi and V. K. Tyagi, "Interaction of anionic gemini surfactants with other surfactants" a review paper published online on September 05, 2013 in ***J. Dispersion Sci. Tech***, 2013.
- Nimisha Chandra and V. K. Tyagi, "Studies on SDLC (Sodium di lauraminocystine) and SDMC (Sodium di myristaminocystine)", ***J. Dispersion Sci. Tech***, Vol. 35 (8), 1051-1059 (2014).
- Nimisha Chandra and V.K. Tyagi, "Amino Acids Based Surfactants: Chemistry, Types, Synthesis, Properties and Applications" ***J. Dispersion Sci. Tech***. Vol. 34 (6), 800-808 (2013).
- Anju Yadav, S.K. Upadhyay and R.P. Singh. " Enzymatic synthesis of sucrose fatty acid esters using sucrose and oleic acid in organic medium" ***JLST*** 2013 Vol. 2

List of publications (Contd.)

- Minakshi S. Garg and Depak Srivastava “Effect of glycidyl methacrylates (GMA) content on thermal and mechanical properties of ternary blend systems based on cardanol based VER, styrene and GMA” Prog.Org. Coat, Vol. 77, 1208-1220 (2014)
- P. K. Kamani “Forms of corrosion exfoliation on corrosion and hydrogen damage” Paint India Vol. LXIV, No. 3, 99-104, 2014
- P. K. Kamani “Forms of corrosion: Stress corrosion craking” Paint India Vol. LXIV, No. 4, 103-108, 2014

THANKS