

PROGRAM AT A GLANCE

ICME2011, 18-20 December 2011, BUET, Dhaka, Bangladesh

| Time | 18 December 2011 | 19 December 2011 | 20 December 2011 |
|--------------------------------|--|---|---|
| 9:00 - 9:30 | Registration | Session 11 (Keynote) at Venue A KN3 & KN4 | Session 21 at Venue A AM – 31, 32, 34, 47, 48, 49 Session 22 at Venue B FL – 16, 17, 37, 48, 49, 52, 53 Session 23 at Venue C TH – 38, 39, 40, 41, 42, 43, 44 Session 24 at Venue D RT – 23, 49, 50, 51, 54, 55 |
| 9:30 - 10:30 | Inaugural Ceremony at BUET Auditorium | | |
| 10:30 - 11:00 | Tea Break | Tea Break | Tea Break |
| 11:00 - 11:45 11:45 - 13:00 | Session 1 (Keynote) at Venue A KN1 Session 2 at Venue A AM – 4, 8, 9, 11, 25, 38 Session 3 at Venue B FL – 1, 2, 3, 4, 5, 6, 54 Session 4 at Venue C TH – 1, 2, 5, 7, 9, 10, 21 Session 5 at Venue D RT – 1, 2, 7, 11, 15, 41 | Session 12 at Venue A AM – 5, 7, 13, 14, 17, 19, 20, 21, 39 Session 13 at Venue B FL – 9, 10, 18, 19, 20, 21, 24, 25, 28, 55 Session 14 at Venue C TH – 23, 24, 25, 27, 28, 29, 30, 31, 32 Session 15 at Venue D RT – 4, 8, 10, 18, 35, 37, 38, 39, 40 | Session 25 at Venue A AM – 1, 28, 33, 40, 41, 44, 45, 51, 52 Session 26 at Venue B FL – 38, 39, 40, 41, 42, 43, 44, 47, 57, 59 Session 27 at Venue C RE – 1, 2, 3, 4, 5, 7, 8, 9, 10 Session 28 at Venue D RT – 19, 26, 27, 28, 33, 34, 43, 45 |
| 13:00 - 14:00 | Lunch Break | Lunch Break | Lunch Break |
| 14:00 - 16:00 | Session 6 (Keynote & Inv. Lect.) at Venue A KN2, IL1, IL2 | Session 16 (Keynote) at Venue A KN5 & KN6 | Session 29 at Venue A AM – 35, 36, 37, 42, 43, 50 Session 30 at Venue B FL – 12, 22, 27, 34, 35, 45, 50, 51, 58 Session 31 at Venue C TH – 19, 33, 34, 36, 37, 46; RE – 11, 13, 14 Session 32 at Venue D RT – 9, 25, 36, 42, 46, 47, 52, 53 |
| 16:00 - 16:30 | Tea & Prayer Break | Tea Break | Tea Break |
| 16:30 - 18:00 | Session 7 at Venue A AM – 3, 6, 10, 12, 15, 16, 22 Session 8 at Venue B FL – 7, 8, 11, 13, 14, 15, 60; RE - 6 Session 9 at Venue C TH – 11, 15, 16, 17, 18, 22, 35 Session 10 at Venue D RT – 5, 6, 13, 16, 29, 30, 31 | Session 17 at Venue A AM – 23, 24, 26, 27, 29, 30, 46 Session 18 at Venue B FL – 23, 26, 30, 31, 32, 33, 36, 56 Session 19 at Venue C TH – 3, 4, 8, 12, 13, 20, 45, 47 Session 20 at Venue D RT – 3, 12, 14, 17, 20, 21, 22 | Closing Ceremony at Venue A |

AM: Applied Mechanics; FL: Fluid Mechanics; TH: Thermal Engineering; RT: Related Topics; RE: Renewable Energy

A: Council Building; B: Library (ME Dept), EME Building; C: M. Sc. Room (ME Dept), EME Building D: Conference Room (ME Dept)

Program Schedule

ICME2011, 18-20 December 2011, BUET, Dhaka, Bangladesh

INAUGURAL SESSION

18 December 2011 (Sunday) at 9:30 to 10:30 am

Venue: BUET Auditorium

Session 01 (Keynote Lecture)

Date: 18 December 2011 (Sunday)

Venue: A (Council Building, BUET)

11:00 – 11:45 Session Chair: Prof. Obaidul Islam

KN1: ADVANCES IN DIVERSITY AND APPLICATION OF EARTH
OBSERVATORY SATELLITES

Speaker: Prof. Gilbert L. Rochon, President, Tuskegee University, USA

Session 02 (Technical Papers: AM)

Date: 18 December 2011 (Sunday)

Venue: A (Council Building, BUET)

11:45 – 13:00 Session Chair: Prof. Md. Maksud Helali

| <i>Paper #</i> | <i>Title and Author</i> |
|----------------|--|
| ICME 11-AM-004 | EVALUATION OF CRACK INITIATION OF SUS316NG UNDER VARIABLE LOADING USING ULTRASONIC BACK REFLECTION <i>Islam Md. Nurul, Yoshio Arai and Wakako Araki</i> |
| ICME 11-AM-008 | DIRECT MEASUREMENT OF J_{IC} FROM THE LOAD VERSUS LOAD-LINE DISPLACEMENT DATA FOR 20MnMoNi55 STEEL <i>S. Bhowmik, P. Sahoo, S.K. Acharyya, S. Dhar, and J. Chattopadhyaya</i> |
| ICME 11-AM-009 | ENRICHMENT OF YARN QUALITY BY THE CHANGE OF DRAFTING ZONE OF DRAWING MACHINES <i>A.K.M.Mahabubuzzaman, Md. Osman Ghani Miazi, M. A. Jalil and Nahid Afroz</i> |
| ICME 11-AM-011 | A STATISTICAL ANALYSIS OF MECHANICAL PROPERTIES OF LOCALLY MANUFACTURED STEEL PRODUCT <i>P. R. Chowdhury and A. C. Mandal</i> |
| ICME 11-AM-025 | PHYSICAL AND THERMAL CHARACTERIZATION OF RICE HUSK FILLED EPOXY MATRIX COMPOSITES <i>Arun Kumar Rout, Alok Satapathy</i> |
| ICME 11-AM-038 | FATIGUE PERFORMANCE OF A FIRE RESISTANT SYNTACTIC FOAM CORE COMPOSITE <i>Mohammad Mynul Hossain and Kunigal Shivakumar</i> |

Session 03 (Technical Papers: FL)

Date: 18 December 2011 (Sunday)

Venue: B (ME Departmental Library, EME Building, BUET)

11:45 – 13:00 **Session Chair: Prof. M. A. Taher Ali**

| <i>Paper #</i> | <i>Title and Author</i> |
|----------------|--|
| ICME 11-FL-001 | FLOW VISUALIZATION AND STUDY OF DRAG PARAMETERS WITH MASS BLOWING IN AXI-SYMMETRIC EXPANSION TYPE TURBULENT FLOW <i>Snehamoy Majumder, Arindam Mandal and Debajit Saha</i> |
| ICME 11-FL-002 | EFFECT OF MAGNETIC FIELD ON DOUBLE DIFFUSIVE MARANGONI CONVECTION WITH CHEMICAL REACTION IN A SQUARE CAVITY <i>M. Saleem, M.A. Hossain, M.Z. Hafiz</i> |
| ICME 11-FL-003 | EFFECT OF THERMOFLUID PARAMETERS ON MIXED CONVECTION IN A TRIANGULAR WAVY CHANNEL <i>Salma Parvin, Rehana Nasrin and N. F. Hossain</i> |
| ICME 11-FL-004 | EFFECTS OF SWIRL IMPARTED AT INLET ON THE RECIRCULATION BUBBLE GENERATED IN THE TURBULENT FLOW IN AN AXI-SYMMETRIC SUDDEN EXPANSION <i>Snehamoy Majumder, Debajit Saha, Arindam Mandal and Vikram Roy</i> |
| ICME 11-FL-005 | NUMERICAL STUDY OF A VISCOUS FLUID FLOW PAST A CIRCULAR CYLINDER IN AN UNBOUNDED DOMAIN. <i>A. K. Singha</i> |
| ICME 11-FL-006 | PASSIVE FLOW SEPARATION CONTROL OF AN AIRFOIL BY CONTINUOUS SUCTION AND INJECTION <i>Mohammad Mashud, Md. Hasan Ali, Tanvir Ahmed and Md. Abu Taher</i> |
| ICME 11-FL-054 | UNSTEADY FLUID FLOW THROUGH A ROTATING CURVED SQUARE DUCT: THE CASE OF POSITIVE AND NEGATIVE ROTATION <i>Rabindra Nath Mondal, Anup Kumar Datta and Samir Chandra Roy</i> |

Session 04 (Technical Papers: TH)

Date: 18 December 2011 (Sunday)

Venue: C (ME Department M.Sc. Room, EME Building, BUET)

11:45– 13:00 **Session Chair: Prof. M A Razzak Akhanda**

| <i>Paper #</i> | <i>Title and Author</i> |
|----------------|---|
| ICME 11-TH-001 | PERFORMANCE AND EMISSION CHARACTERISTICS OF A VARIABLE COMPRESSION SI ENGINE USING ETHANOL-GASOLINE BLENDS AS FUEL <i>Achinta Sarkar, Achin Kumar Chowdhuri and Bijan Kumar Mandal</i> |
| ICME 11-TH-002 | EFFECT OF MICRO-SPHERE SIZE AND CONTENT ON HEAT CONDUCTIVITY OF SGM FILLED EPOXY COMPOSITES <i>Debasmita Mishra and Alok Satapathy</i> |

- ICME 11-TH-005 COMPARISON OF BOILING PHENOMENA DURING DROPLET AND HOT SURFACE INTERACTION CONSIDERING ATMOSPHERIC AND VACUUM PRESSURE
Mohammad Mezbah Uddin , Koji Okamoto, Tetsu Yasui and Someya Satoshi
- ICME 11-TH-007 INVESTIGATION OF SURFACE WETTABILITY AND DROPLET EVAPORATION DURING DROPLET AND HOT SURFACE INTERACTION CONSIDERING UV LIGHT AND BOILING EFFECT
Mohammad Mezbah Uddin , Koji Okamoto , Manabu Tange and Someya Satoshi
- ICME 11-TH-009 THERMAL BEHAVIOR OF WATER RETARDANT TREATED JUTE FIBER
Sweety Shahinur, Mahbub Hasan, Qumrul Ahsan, Dilip Kumar Shaha
- ICME 11-TH-010 THERMAL RADIATION EFFECTS ON PERIODIC MHD NATURAL CONVECTION FLOW ALONG A VERTICAL SURFACE
S. Siddiqa and Md. A. Hossain
- ICME 11-TH-021 MHD HEAT AND MASS TRANSFER UNSTEADY FLOW OF A MICROPOLAR FLUID THROUGH A POROUS MEDIUM WITH INDUCED MAGNETIC FIEL
Md. Mohidul Haque and Md. Mahmud Alam

Session 05 (Technical Papers: RT)

Date: 18 December 2011 (Sunday)

Venue: D (Conference Room, ME Dept., BUET)

11:45– 13:00 Session Chair: Prof. Md. Sadikul Baree

- | <i>Paper #</i> | <i>Title and Author</i> |
|----------------|--|
| ICME 11-RT-001 | SIMPLIFIED MATHEMATICAL MODEL FOR GENERATING ECG SIGNAL AND FITTING THE MODEL USING NONLINEAR LEAST SQUARE TECHNIQUE <i>Md. Abdul Awal, Sheikh Shanawaz Mostafa and Mohiuddin Ahmad</i> |
| ICME 11-RT-002 | OPTIMIZATION OF LASER BEAM WELDING OF STAINLESS STEELS IN OVERLAP JOINT CONFIGURATION <i>M.M.A. Khan, L. Romoli, M. Fiaschi and G. Dini</i> |
| ICME 11-RT-007 | EFFECT OF CNT LENGTH AND INTERFACE WAVINESS ON EFFECTIVE MATERIAL CONSTANT (E_z) OF CNT-BASED COMPOSITE MATERIAL <i>Md. Mehedi Hasan, Md. Shahriar Jahan Hossain and A.K.M. Masud</i> |
| ICME 11-RT-011 | STRUCTURAL, TRANSPORT AND DIELECTRIC PROPERTIES OF POLYCRYSTALLINE $Ca_{1-x}La_x(Ti_{0.5}Fe_{0.5})O_3$ <i>M. R. Shaha and A. K. M. Akther Hossain</i> |
| ICME 11-RT-015 | TIME-SERIES ANALYSIS IN POWER SUPPLY SYSTEM TO ACHIEVE A SUSTAINABLE ECONOMIC GROWTH IN BANGLADESH <i>Motoyuki Arai, Kenji Tanaka , Rikiya Abe and Gento Mogi</i> |
| ICME 11-RT-041 | EFFECT OF NUMBER OF KNOTS IN A POLYNOMIAL TRAJECTORY ON MOTION CHARACTERISTICS OF ROBOTIC MANIPULATORS <i>Suparno Bhattacharyya and Tarun Kanti Naskar</i> |

Session 06 (Keynote & Invited Lectures)

Date: 18 December 2011 (Sunday)

Venue: A (Council Building, BUET)

14:00 – 16:00 **Session Chair: Prof. S. Jeelani**

KN2: EXPERIMENTAL TECHNIQUES FOR AEROACOUSTICS IN LOW MACH NUMBER CONFINED FLOWS

Speaker: *Dr. Tech. Hans Bodén, KTH Royal Institute of Technology, Sweden*

IL1: MICROFLUIDIC BASED LAMINAR FLOW FUEL CELL FOR PORTABLE POWER

Speaker: *Dr. Prashanta Dutta, Washington State University, USA*

IL2: BIOTECHNOLOGICAL APPROACH TO INCREASE THE YIELD OF BIO-DIESEL AS A SOURCE OF RENEWABLE ENERGY

Speaker: *Prof. Mrinal K. Ghose, Asian Development Bank in Vietnam*

Session 07 (Technical Papers: AM)

Date: 18 December 2011 (Sunday)

Venue: A (Council Building, BUET)

16:30 – 18:00 **Session Chair: Prof. H. Mahfuz**

| <i>Paper #</i> | <i>Title and Author</i> |
|----------------|---|
| ICME 11-AM-003 | EXPERIMENTAL STUDY AND NUMERICAL ANALYSIS ON VIBRATION CHARACTERISTICS OF SIMPLY SUPPORTED OVERHANG BEAM UNDER LARGE DEFORMATION <i>Anirban Mitra, Dipendra Kr. Roy, Prasanta Sahoo and Kashinath Saha</i> |
| ICME 11-AM-006 | ELASTOSTATIC RESPONSE OF AN ECCENTRICALLY LOADED LAMINATED COMPOSITE PANEL WITH DISCRETE PERIODIC STIFFENERS <i>Partha Modak and S Reaz Ahmed</i> |
| ICME 11-AM-010 | MECHANICAL BOREHOLE STABILITY ANALYSIS USING PHASE2 <i>Dipankar Chowdhury and Pål Skalle</i> |
| ICME 11-AM-012 | NONLINEAR ANALYSIS OF ELECTRO-THERMAL RESPONSE OF A CONDUCTING WIRE OF DISSIMILAR MATERIALS WITH VARIABLE THERMAL CONDUCTIVITY <i>S M Mahbobur Rahman, Anik Adhikary and S Reaz Ahmed</i> |
| ICME 11-AM-015 | DYNAMIC ANALYSIS OF FUNCTIONALLY GRADED SHELL STRUCTURE USING FINITE ELEMENT METHOD <i>Debabrata Chakraborty, Manish Ranjan and Anil Kumar</i> |
| ICME 11-AM-016 | EFFECT OF Al ADDITION ON THE THERMAL AND MECHANICAL BEHAVIOR OF Sn-9Zn EUTECTIC Pb-FREE SOLDER ALLOY <i>Md. M. Billah, T. Alam, M. A. Hossain, A. Sharif and S. M. K. N. Islam</i> |

ICME 11-AM-022 FINITE ELEMENT ANALYSIS OF A TWO DIMENSIONAL COMPOSITE BODY FOR DIFFERENT BOUNDARY CONDITIONS
Zannatul Ferdous, Jayanti Das and M. Ashiqur Rahman

Session 08 (Technical Papers: FL)

Date: 18 December 2011 (Sunday)

Venue: B (ME Departmental Library, EME Building, BUET)

16:30 – 18:00 Session Chair: Prof. Jamal Nasser

| <i>Paper #</i> | <i>Title and Author</i> |
|----------------|---|
| ICME11-FL-007 | FLOW INVESTIGATION IN A DIAGONAL FLOW PUMP <i>Sukanta Sarkar , Pritam Giri, Timir Kanti Saha</i> |
| ICME11-FL-008 | COMPUTATIONAL ANALYSIS OF THE EFFECT OF VORTEX PARAMETERS IN A VORTEX TUBE <i>Anayet U. Patwari, N.M Reehan, Adib Bin Rashid, Ashikur Rahman</i> |
| ICME11-FL-011 | FINITE DIFFERENCE SOLUTION OF MHD RADIATIVE BOUNDARY LAYER FLOW OF A NANOFLUID PAST A STRETCHING SHEET <i>Md. Shakhaoath Khan, Md. Mahmud Alam and M. Ferdows</i> |
| ICME 11-FL-013 | AN EXPERIMENTAL AERODYNAMIC STUDY OF A SERIES OF RUGBY BALLS <i>Victor Djamovski and Firoz Alam</i> |
| ICME 11-FL-014 | TAPER AND ANGLE OF ATTACK PERFORMANCE COMPARISON FOR UNTWISTED BLADE WIND TURBINE <i>A.B. Mahmud Hasan, Ziaul Huque, Donald Harby, and Raghava Kommalapati</i> |
| ICME 11-FL-015 | EFFECTS OF SIDE MASS INJECTION VELOCITY, LOCATION AND INLET SWIRL ON THE MAIN TURBULENT FLUID FLOW THROUGH A CIRCULAR DUCT <i>Snehamoy Majumder and Debajit Saha</i> |
| ICME 11-FL-060 | A CFD ANALYSIS ON THE EFFECTS OF GEOMETRY OF GURNEY FLAP ON AERODYNAMICS OF NACA0012 AIRFOIL <i>Md. Arfan Uddin and A.B.M. Toufique Hasa</i> |
| ICME 11-RE-006 | PROSPECTS AND CHALLENGES OF WIND ENERGY: A COMPREHENSIVE ANATOMY <i>Khan R. Rahaman and Quazi K. Hassan</i> |

Session 09 (Technical Papers: TH)

Date: 18 December 2011 (Sunday)

Venue: C (ME Department M.Sc. Room, EME Building, BUET)

16:30 – 18:00 Session Chair: Prof. Md. Iqbal Hossain

| <i>Paper #</i> | <i>Title and Author</i> |
|----------------|---|
| ICME 11-TH-011 | MIXED CONVECTION LAMINAR FLOW ALONG A HORIZONTAL PLATE SUBJECT TO STREAMWISE SINUSOIDAL SURFACE TEMPERATURE <i>Muhammad Noman Hasan and Suvash C. Saha</i> |

- ICME 11-TH-015 EXPERIMENTAL INVESTIGATION ON HEAT TRANSFER IN A CLOSED LOOP PULSATING HEAT PIPE
Md. Nuruzzaman, Himel Barua, Mohammad Ali, M.Quamrul Islam and C.M. Feroz
- ICME 11-TH-016 EFFECT OF TRANSVERSE THERMAL GRADIENT ON BONGOBONDHU JAMUNA MULTIPURPOSE BRIDGE
M. R. Hasib, M. Begum
- ICME 11-TH-017 THERMAL PERFORMANCE STUDY OF CONVENTIONAL AND NEW HOUSE WALL SYSTEMS
Fayez Aldawi, Hazim Moria, Firoz Alam, Abhijit Date and Aliakbar Akbarzadeh
- ICME 11-TH-018 EFFECT OF DIFFERENTIALLY HEATING AND CONSEQUENT TRANSIENT BEHAVIOUR FOR NATURAL CONVECTION WITHIN AN ENCLOSURE OF SINUSOIDAL CORRUGATED SIDE WALLS
Muhammad Noman Hasan Suvash C. Saha and Y. T. Gu
- ICME 11-TH-022 EFFECTS OF PRESSURE WORK AND RADIATION ON MAGNETOHYDRODYNAMIC FREE CONVECTION FLOW ALONG A SPHERE WITH JOULE HEATING
M. Miraj , M. A. Alim and L. S. Andallah
- ICME 11-TH-035 PRANDTL NUMBER EFFECT ON MIXED CONVECTION IN A VERTICAL CHANNEL WITH A HEAT-GENERATING OBSTACLE
Rehena Nasrin and Salma Parvin

Session 10 (Technical Papers: RT)

Date: 18 December 2011 (Sunday)

Venue: D (Conference Room, ME Dept, BUET)

16:30 – 18:00 Session Chair: Prof. N. R. Dhar

| <i>Paper #</i> | <i>Title and Author</i> |
|----------------|--|
| ICME 11-RT-005 | STRATING THE LEAN JOURNEY WITH VALUE STREAM MAPPING IN THE GARMENTS INDUSTRY OF BANGLADESH <i>M. M Nazrul Islam, Mimmun Sultana</i> |
| ICME 11-RT-006 | APPLICATION OF FUZZY LOGIC FOR CUSTOMER NEEDS ANALYSIS: A CASE STUDY ON ONE DIMENSIONAL ATTRIBUTE OF KANO MODEL <i>Md Mamunur Rashid</i> |
| ICME 11-RT-013 | FUZZY ANALYTICAL HIERARCHY PROCESS FOR MULTICRITERIA INVENTORY CLASSIFICATION <i>GolamKabir, M. AhsanAkhtar Hasin and Md. Abu Hasan Khondokar</i> |
| ICME 11-RT-016 | MUD DESIGN MODELS FOR UNDERBALANCED DRILLING WELLS IN SHALE <i>Aminul Islam and Pål Skalle</i> |
| ICME 11-RT-029 | INVESTIGATION OF MACHINABILITY IMPROVEMENT DURING TURNING OPERATION OF HEAT TREATED MILD STEEL <i>Anayet U. Patwari, N. A. Chowdhury, Md. I. Imam, A. Arefin, M. N. Mahmood</i> |
| ICME 11-RT-030 | PERFORMANCE EVALUATION OF 1.68 KWP DC-OPERATED SOLAR PUMP WITH AUTO TRACKER USING MICROCONTROLLER BASED LOW COST UNIVERSAL DATA ACQUISITION SYSTEM <i>Md. Alamgir Hossain, Md. Shafiqul Islam, Md. Mozammel Hosain Chowdhury, Md. Nahid Hasan Sabuj and Mashkura Shaekka Bari</i> |

ICME 11-RT-031 IMPROVING GRINDING PERFORMANCE WITH THE USE OF GRINDING FLUID LEADING TO GREEN MANUFACTURING
D. Dewanjee, P. Kundu, B. Sikder, D. Biswas, Bijoy Mandal and Santanu Das

Session 11 (Keynote Lectures)

Date: 19 December 2011 (Monday)

Venue: A (Council Building, BUET)

9:00 – 10:30 Session Chair: Prof M. H. Khan

KN3: ADVANCES IN THE DEVELOPMENT OF POLYMERIC FIBERS WITH HIGH ELASTIC ENERGY STORAGE CAPACITY

Speaker: *Prof. Hassan Mahfuz, Florida Atlantic University, USA*

KN4: HOMOGENEOUS NUCLEATION BOILING EXPLOSION PHENOMENA UNDER NON-EQUILIBRIUM CONDITION

Speaker: *Prof. Masanori Monde, Saga University, Japan*

Session 12 (Technical Papers: AM)

Date: 19 December 2011 (Monday)

Venue: A (Council Building, BUET)

11:00 – 13:00 Session Chair: Prof. Abu Rayhan Md. Ali

| <i>Paper #</i> | <i>Title and Author</i> |
|----------------|---|
| ICME 11-AM-005 | SOLID PARTICLE EROSION RESPONSE SIMULATION OF ALUMINA REINFORCED ZA-27 METAL MATRIX COMPOSITES <i>Srimant Kumar Mishra, Sandhyarani Biswas, Alok Satapathy and Amar Patnaik</i> |
| ICME 11-AM-007 | EFFECTS OF ALUMINIUM CONTENT ON STRAIN RATE SENSITIVITY OF AZ SERIES WROUGHT MAGNESIUM ALLOYS DURING SUPERPLASTIC FORMING <i>H.M.M.A. Rashed and J.D. Robson</i> |
| ICME 11-AM-013 | EFFECT OF WEAVE STRUCTURES ON JUTE-COTTON UNION FABRIC PROPERTIES <i>Milon Hossain, Rumpa Karmaker, Sudipta Bain, M. A. Jalil and Joykrishna Saha</i> |
| ICME 11-AM-014 | SYNTHESIS OF NANO-HYBRIDS FROM POLYIMIDE AND IN-SITU FORMED POLYSILOXANES AND THEIR PERFORMANCES <i>Shaikh Md. Mominul Alam</i> |
| ICME 11-AM-017 | DEVELOPMENT OF VACUUM ASSISTED RESIN INFUSION (VARI) MOLDING TECHNOLOGY FOR THERMOSET BASED POLYMER MATRIX COMPOSITE WITH LOCALLY AVAILABLE RESOURCES <i>Sheikh Jamil Ahmed, Qumrul Ahsan and Mahbub Hasan</i> |
| ICME 11-AM-019 | DESIGN AIDS AND SELECTION GUIDELINES FOR COMPOSITE HYPAR SHELL ROOFS WITH CUTOUTS- A FINITE ELEMENT APPROACH <i>Sarmila Sahoo</i> |
| ICME 11-AM-020 | CHARACTERIZATION OF SINGLE COIR FIBER FOR PREPARING POLYMER MATRIX COMPOSITE <i>Nazia Nafsin and Mahbub Hasan</i> |

- ICME 11-AM-021 INVESTIGATION EFFECTS OF SINGLE OVERLOAD/UNDERLOAD ON CRACK OPENING LOAD VALUES OF 350WT STEEL USING FINITE ELEMENT METHOD
M. H. Gozin , M. Aghaie-Khafri
- ICME 11-AM-039 COMPARATIVE STUDY OF EFFECT OF ABRASIVE PARTICLE SIZE ON SAND SLURRY EROSION WEAR BEHAVIOR OF (Al6061-SiC) And (Al6061-SiC-Gr) COMPOSITES.
Mir Safiulla, K S Shylesh

Session 13 (Technical Papers: FL)

Date: 19 December 2011 (Monday)

Venue: B (ME Departmental Library, EME Building, BUET)

11:00 – 13:00 Session Chair: Prof. A K M Sadrul Islam

| <i>Paper #</i> | <i>Title and Author</i> |
|----------------|--|
| ICME11-FL-009 | CFD MODELLING OF AIRFLOW IN HUMAN RESPIRATORY SYSTEM <i>Vivek Kumar Srivastav, Anuj Jain, Akshoy Ranjan Paul, Shrey Joshi</i> |
| ICME11-FL-010 | INTERFERENCE EFFECT AND FLOW PATTERN OF FOUR BIPLANE CONFIGURATIONS USING NACA 0024 PROFILE <i>G.M. Jahangir Alam</i> |
| ICME11-FL-018 | APPLICATION OF DYNAMIC NONLINEAR SUBGRID-SCALE STRESS MODEL FOR THE PULSATILE FLOW IN A BOTH SIDED CONSTRICTED CHANNEL <i>Afzal Hossain, Md. Mamun Molla and Bing-Chen Wang</i> |
| ICME11-FL-019 | A COMPUTATIONAL STUDY OF BLOCKAGE EFFECTS ON VEHICLE AERODYNAMIC DRAG IN CLOSED-WALL WIND TUNNEL <i>Prasanjit Das, Makoto Tsubokura , Tomofuyu Matsuuki, Nobuyuki Oshima and Kozo Kitoh</i> |
| ICME11-FL-020 | FLUID FLOW IN A CURVED PIPE WITH MAGNETIC FIELD ALONG THE CENTRE LINE <i>Md. Mainul Hoque and Md. Mahmud Alam</i> |
| ICME11-FL-021 | MAGNETIC EFFECT ON FLUID FLOW IN A ROTATING STRAIGHT DUCT WITH RECTANGULAR CROSS SECTION <i>Md. Kamruzzaman and Md. Mahmud Alam</i> |
| ICME11-FL-024 | ACTIVE FLOW CONTROL IN TWIN AIR-INTAKE USING VORTEX GENERATORS JETS <i>Akshoy Ranjan Paul, Shrey Joshi, Aman Jindal, Ajit Verma, Shivam Maurya, Anuj Jain</i> |
| ICME11-FL-025 | REYNOLDS NUMBER EFFECT ON FLOW-INDUCED FORCES ON TWO TANDEM CYLINDERS <i>Md. Mahub Alam and J.P. Meyer</i> |
| ICME11-FL-028 | VELOCITY DISTRIBUTION AROUND BANDALLING FOR NAVIGATION CHANNEL DEVELOPMENT <i>Md. Lutfor Rahman, B.C.Basak and Md. Showkat Osman</i> |
| ICME 11-FL-055 | NUMERICAL INVESTIGATION ON EFFECTS OF DEFORMATION ON ACCURACY OF ORIFICE METERS <i>Nitish Ranjan Sarker, M.M. Razzaque, Md. Khayrul Enam</i> |

Session 14 (Technical Papers: TH)

Date: 19 December 2011 (Monday)

Venue: C (M.Sc. Room, ME Department, EME Building, BUET)

11:00 – 13:00 Session Chair: Prof. Masanori Monde

| <i>Paper #</i> | <i>Title and Author</i> |
|----------------|--|
| ICME 11-TH-023 | PRODUCTION OF PYROLYTIC LIQUID USING GRASS AS FEED MATERIAL <i>Md. Nurun Nabi, Md. Sultan Mahmud, Md. Monirujjaman and Md. Shamim Akhter</i> |
| ICME 11-TH-024 | SOOT FORMATION IN DIFFUSION FLAME UNDER MICROGRAVITY CONDITIONS <i>Arup Jyoti Bhowal</i> |
| ICME 11-TH-025 | PYROLYSIS OF COCONUT SHELL FOR BIO-OIL <i>Mohammad Uzzal Hossain Joardder, Mohammad Rofiqul Islam, Mohd. Rafiqul Alam Beg</i> |
| ICME 11-TH-027 | NUMERICAL SIMULATION OF DOUBLE-DIFFUSIVE MIXED CONVECTION IN A LID-DRIVEN RIGHT TRIANGULAR ENCLOSURE <i>M. M. Rahmana, M. M. Billahc, N.A Rahima and R. Saidura</i> |
| ICME 11-TH-028 | ANALYSIS OF COMBINED CONDUCTION AND RADIATION IN PARTICIPATING MEDIUM WITHIN TWO-DIMENSIONAL RECTANGULAR ENCLOSURES <i>Kunja Bihari Sahu, Prakash Ghose and Purna Chandra Mishra</i> |
| ICME 11-TH-029 | EFFECTS OF TEMPERATURE DEPENDENT THERMAL CONDUCTIVITY ON MAGNETOHYDRODYNAMIC FREE CONVECTION FLOW ALONG A VERTICAL FLAT PLATE <i>A.K.M. Safiqul Islam, M. A. Alim and M. M. A. Sarker</i> |
| ICME 11-TH-030 | ANALYSIS OF ENERGY LOSS IN AUTOMOBILE BRAKING SYSTEM AND ITS RECOVERY <i>Aktaruzzaman and Mohammad Ali</i> |
| ICME 11-TH-031 | TRANSIENT HEAT AND MASS TRANSFER FLOW THROUGH SALT WATER IN AN OCEAN WITH HEAT GENERATION <i>Ifsana karim and Md. Mahmud Alam</i> |
| ICME 11-TH-032 | NUMERICAL SOLUTION OF RADIAL HEAT CONDUCTION IN AN INFINITELY LONG CYLINDER <i>D.N. Thatoi, A. Acharya, N. Anand, P. Acharya, V. Agrawal</i> |

Session 15 (Technical Papers: RT)

Date: 19 December 2011 (Monday)

Venue: D (Conference Room, ME Dept., BUET)

11:00 – 13:00 Session Chair: Dr. Hans Bodén

| <i>Paper #</i> | <i>Title and Author</i> |
|----------------|--|
| ICME 11-RT-004 | OPTIMIZATION OF MULTIPLE PERFORMANCE CHARACTERISTICS IN ULTRASONIC MACHINING PROCESS USING GREY RELATIONAL ANALYSIS <i>B.C. Routara, A.K. Sahoo, A.K. Rout, D.N. Thatoi</i> |

- ICME 11-RT-008 MOTION SENSING BY MOIRÉ IMAGING TECHNIQUE – A TYPICAL APPROACH FOR BIOMEDICAL APPLICATION
Md. Tawhidul Islam Khan, Umesaki Kazuya, Kenbu Teramoto , Md. Mahbub Hasan and Taslim
- ICME 11-RT-010 INFRARED ROAD SURFACE DETECTION USED AS AN ABS SWITCH
D.J.McGoldrick, J.S.Samuels, M.D.Humphry, K.J McManus AM, and A.S Blicblau
- ICME 11-RT-018 DESIGN OF AN INNOVATIVE COAL SCREENING SYSTEM USING NONLINEAR POWER BASED ELECTROMAGNETIC VIBROEXCITER – A FEASIBILITY STUDY
Shaheen Hasan Chowdhury, Abdul Md Mazid
- ICME 11-RT-035 PHARMA USABLE ROBOTIC GRIPPER DESIGN AND FABRICATION BY LOCAL MATERIALS
A. K. Azad, M. M. Alam, M. R. Das and A. Mistry
- ICME 11-RT-037 A BINARY HYPER REDUNDANT ELEPHANT TRUNK LIKE ROBOT CONTROLLED BY MICROCONTROLLER AND PLC-WINCC
Mahadi Hasan , Rewat Bunchan , Ir Erik Lucas Bohez , Md. Abdul Wakil , Md. Ashraful Islam and Md. Mostafizur Rahman
- ICME 11-RT-038 MEASUREMENT OF RELATIVE HUMIDITY USING A SIMPLE ARRANGEMENT & BY ANALOG TO DIGITAL DATA CONVERSION METHOD
Md. Ikthair Hossain Soikat
- ICME 11-RT-039 SMOOTHING CONTROL OF WIND TURBINE GENERATOR FLUCTUATIONS BY USING PITCH CONTROLLER
M.R.I. Sheikh, M. Shahed, and M.A. Hossain
- ICME 11-RT-040 AN EXPERIMENTAL INVESTIGATION ON SINGLE AXIS SUN TRACKER BY WIPER MOTOR
Md. Riaz Pervez, Md. Rokunuzzaman , Mohd. Rafiqul Alam Beg and Md. Solaiman

Session 16 (Keynote Lectures)

Date: 19 December 2011 (Monday)

Venue: A (Council Building, BUET)

14:00 – 16:00 Session Chair: Prof. Md. Fazle Ilahi

KN5: NANO MATERIALS RESEARCH AT TUSKEGEE UNIVERSITY

Speaker: *Prof. S. Jeelani, Tuskegee University, USA*

KN6: NOVEL CARBON NANOTUBE/COPPER HYBRID NANOCOMPOSITES FOR STRUCTURAL AND MULTIFUNCTIONAL APPLICATIONS

Speaker: *Dr. Byung-Sun Kim, Korea Institute of Materials Science, Korea*

Session 17 (Technical Papers: AM)

Date: 19 December 2011 (Monday)

Venue: A (Council Building, BUET)

16:30 – 18:00 Session Chair: Prof. Mohammad Tamim

| <i>Paper #</i> | <i>Title and Author</i> |
|----------------|--|
| ICME 11-AM-023 | STRESS-STRAIN ANALYSIS OF AN OPEN-ENDED THICK CYLINDER OF STRAIN-HARDENED MATERIAL BY AUXILIARY ANGLE METHOD <i>N Sultana, P NayakI, S C Mondal</i> |

- ICME 11-AM-024 EFFECT OF NORMAL LOAD AND SLIDING VELOCITY ON FRICTION COEFFICIENT AND WEAR RATE OF GUN METAL
M. A Chowdhury, D. M. Nuruzzaman, M. L. Rahaman, R. Nandee and B. Debnath
- ICME 11-AM-026 MICRO-MECHANICAL CHARACTERISTICS OF HUMAN BONE: A PRE-REQUISITE FOR CUSTOMIZED IMPLANT DESIGNING
Satarupa Biswas, Promita Bhattacharjee, Krittika Das Gupta and Abhijit Chanda
- ICME 11-AM-027 STUDY OF FRICTION PERFORMANCE OF AL-10% SiC METAL MATRIX COMPOSITE USING TAGUCHI METHOD
Shouvik Ghosh, Prasanta Sahoo, Goutam Sutradhar
- ICME 11-AM-029 EFFECT OF STRAIN HARDENING ON UNLOADING OF A DEFORMABLE SPHERICAL CONTACT UNDER STICK CONTACT CONDITION – A FINITE ELEMENT STUDY
Biplab Chatterjee and Prasanta Sahoo
- ICME 11-AM-030 AN INVESTIGATION ON REDUCING BURR IN SHAPING MEDIUM CARBON STEEL THROUGH STRESS ANALYSIS
A. Das, P. P. Saha and S. Das
- ICME 11-AM-046 DYNAMIC RESPONSE OF VEHICLE CONSIDERING AXLE FLEXIBILITY TRAVELLING OVER SERIES OF POTHOLES
S. Reddy and S. Talukdar

Session 18 (Technical Papers: FL)

Date: 19 December 2011 (Monday)

Venue: B (ME Departmental Library, EME Building, BUET)

16:30 – 18:00 Session Chair: Prof. D. K. Das

- | <i>Paper #</i> | <i>Title and Author</i> |
|----------------|--|
| ICME 11-FL-023 | MODELLING OF GAS-LIQUID BUBBLY FLOWS IN PRACTICAL VERTICAL PIPES <i>L. Deju, Sherman CP Cheung, Guan H. Yeoh, Jiyuan Tu1, E. Krepper, D Lucas</i> |
| ICME 11-FL-026 | STUDY ON THE VARIATION OF EFFECTIVENESS, EFFECTIVE LENGTH OF DIFFUSER AND STAGNATION PRESSURE, WITH THE CONFIGURATION OF A SUDDEN EXPANSION WITH TWO FENCES <i>S. Chakrabarti, D.K Mondal and N. Banerjee</i> |
| ICME 11-FL-030 | NATURAL CONVECTION OF AIR IN TILTED SQUARE CAVITIES WITH DIFFERENTIALLY HEATED OPPOSITE WALLS <i>Kunja Bihari Sahu, Manas Ranjan Padhi, Prakash Ghose and D K Ray</i> |
| ICME 11-FL-031 | MAGNETIC EFFECT ON CASSON'S FLUID FLOW IN SLIP REGIME <i>Naseem Ahmad, Sultan Ahmad and Jay Pal Singh</i> |
| ICME 11-FL-032 | EFFECTS OF GUIDE VANE SWIRL AND TUMBLE DEVICE (GVSTD) TO THE AIR FLOW OF NATURALLY ASPIRATED CI ENGINE <i>Idris Saad and Saiful Bari</i> |
| ICME 11-FL-033 | AERODYNAMICS AND MICROSTRUCTURE STUDY OF DIANA SUBMARINE SWIMSUIT <i>Hazim Moria, Firoz Alam and Aleksandar Subic</i> |

- ICME 11-FL-036 COMPUTATION OF NON-LINEAR DYNAMIC DERIVATIVES AROUND A SPECIALISED DELTA WING CONFIGURATION
Christopher Pevitt and Firoz Alam
- ICME 11-FL-056 MODAL ANALYSIS OF MICRO AIR VEHICLE WINGS
Uttam Kumar Chakravarty

Session 19 (Technical Papers: TH)

Date: 19 December 2011 (Monday)

Venue: C (ME Department M.Sc. Room, EME Building, BUET)

16:30 – 18:00 **Session Chair: Prof. Md. Ehsan**

| <i>Paper #</i> | <i>Title and Author</i> |
|----------------|---|
| ICME 11-TH-003 | NANO-SIZED CARBON PARTICULATES IN THE GASOLINE ENGINE EXHAUST <i>Bireswar Paul, Amitava Datta</i> |
| ICME 11-TH-004 | CFD MODELLING OF AIR-FIRED AND OXY-FUEL COMBUSTION IN A 100 KW UNIT FIRING PROPANE <i>Audai Hussein Al-Abbas and Jamal Naser</i> |
| ICME 11-TH-008 | OBSERVATION OF IN-CYLINDER GAS PRESSURE AND COMBUSTION RELATED PARAMETERS WITH TWO OXYGENATE BLENDS <i>Md. Nurun Nabi</i> |
| ICME 11-TH-012 | BIODIESEL FROM JATROPHA CURCAS LINNAEUS AND ITS PERFORMANCE AS BLENDS IN DIESEL ENGINE <i>Abu Saleh Ahmed, Sarfaraj Khan, Md. Tofajjal Hossain Chowdhury and Sinin Hamdan</i> |
| ICME 11-TH-013 | EFFECT OF ENGINE BACKPRESSURE ON THE PERFORMANCE AND EMISSIONS OF A CI ENGINE <i>Mohammad Uzzal Hossain Joardder, Md. Shazib Uddin and Murari Mohon Roy</i> |
| ICME 11-TH-020 | EFFECT OF EGR RATIO TO CONTROL PARTICULATE MATTER EMISSION FROM DIESEL ENGINE COMBUSTION BY USING HIGH –SPEED COMBUSTION MODEL <i>A.S.M Sayem , Tilok Kumar Das , Prasanjit Das and Md. Iqbal Mahmud</i> |
| ICME 11-TH-045 | FALLING FILM FLOW ALONG VERTICAL PLATE WITH TEMPERATURE DEPENDENT PROPERTIES <i>M. M. Rahman, Z. U. Ahmed*, M. A. Wakil and M. A. Jalil</i> |
| ICME 11-TH-047 | UNSTEADY TWO-DIMENSIONAL CONVECTIVE HEAT AND MASS TRANSFER FLOW ALONG A WEDGE WITH THERMOPHORESIS <i>ATM. M. Rahman, M. S. Alam, M. K. Chowdhury and M.M. Rahman</i> |

Session 20 (Technical Papers: RT)

Date: 19 December 2011 (Monday)

Venue: D (Conference Room, ME Dept., BUET)

16:30 – 18:00 **Session Chair: Prof. Md. Fakhru Islam**

| <i>Paper #</i> | <i>Title and Author</i> |
|----------------|--|
| ICME 11-RT-003 | INVESTIGATION OF POLYESTER REMOVAL MECHANISM FOR RECYCLING Cu WIRE THROUGH APPLICATION OF VOLTAGE <i>Md. Mominul Haque, Hyungsub Kim, Man-Sik Kong, Kyung-Sub Kim and Caroline Sunyong Lee</i> |
| ICME 11-RT-012 | INVESTIGATING THE EFFECT OF CROSS SECTION OF GATING SYSTEM BY CFD SIMULATION IN COOLING OF ALUMINUM ALLOY IN A PERMANENT MOULD CASTING <i>N. A. Chowdhury, Arif M Khan, N.M Reehan, Anayet U. Patwari</i> |
| ICME 11-RT-014 | ELECTROLESS Ni-P-W COATING: PREPARATION AND CHARACTERIZATION <i>Supriyo Roy and Prasanta Sahoo</i> |
| ICME 11-RT-017 | DESIGNING AN IMPROVED CORROSION CONTROL SYSTEM FOR NATURAL GAS PIPELINE NETWORK IN MUNSHIGANJ AREA <i>Mahbubur Rahman, Satyajit Ghosh</i> |
| ICME 11-RT-020 | OPTIMIZATION OF THE HOT ROLLING PROCESS PARAMETERS TO INDUCE BENEFICIAL EFFECTS IN IRON ALLOYS BY ADDITION OF DETRIMENTAL ELEMENT PHOSPHORUS <i>M.A. Islam and Y. Tomota</i> |
| ICME 11-RT-021 | EFFECT OF SINTERING TEMPERATURE ON THE STRUCTURAL AND ELECTROMAGNETIC PROPERTIES OF NiCuZn FERRITE <i>M. Belal Hossen, N. A. Ahmad and A. K. M. Akther Hossain</i> |
| ICME 11-RT-022 | INFLUENCE OF SUBSTITUTION OF TRANSITION METAL ION ON STRUCTURAL AND MAGNETIC PROPERTIES OF Mn-Zn FERRITES <i>F. Alam and A. K. M. Akther Hossain</i> |

Session 21 (Technical Papers: AM)

Date: 20 December 2011 (Tuesday)

Venue: A (Council Building, BUET)

9:00 – 10:30 **Session Chair: Dr. V. K. Rangari**

| <i>Paper #</i> | <i>Title and Author</i> |
|----------------|---|
| ICME 11-AM-031 | MEASUREMENT OF MECHANICAL PROPERTIES OF NC DRAGONFLY WING BY NANOINDENTATION <i>ABSM Rupan Talucdher, Yarmolenko Sergey and Kunigal N Shivakumar</i> |
| ICME 11-AM-032 | FREE VIBRATION ANALYSIS OF BENDING STIFF COMPOSITE CONICAL SHELLS WITH DELAMINATION – A FINITE ELEMENT APPROACH <i>Sudip Dey, Ankuran Saha and Amit Karmakar</i> |

- ICME 11-AM-034 IN-SITU STRESS AND STRESS REGIMES IN RELATION TO DRILLING OIL AND GAS WELLS
Md. Shmasuzzoha, Mahbubur Rahman and Eirik Karstad
- ICME 11-AM-047 VIBRATION ANALYSIS OF RENOVATED PRIMARY COOLING SYSTEM OF THE 3 MW TRIGA MARK – II RESEARCH REACTOR
M. Sohel Rana, M. Mezbah Uddin, Ashraful Haque, M. J. H. Khan, M. A. Salam, N. H. Badrun, M. S. Mahmood, M. S. Islam, M. Monzurul Haque and M. A. Zulquarnain
- ICME 11-AM-048 EFFECT OF FIBER LOADINGS ON MECHANICAL PROPERTIES OF WATER HYACINTH FIBER REINFORCED POLYPROPYLENE COMPOSITES
Manabendra Saha, Md. Hafizur Rahman, and Md. Afsar Ali
- ICME 11-AM-049 CONFIGURATION AND CHARACTERISTICS OF MICROSCOPIC VACUUMS IN RESIN TRANSFER MOLDED COMPOUNDS
Md. Zakaria Mahbub, Mohammad Imran, Yeasir Arafat, Saiham Siraj, Mohammad Ali

Session 22 (Technical Papers: FL)

Date: 20 December 2011 (Tuesday)

Venue: B (ME Departmental Library, EME Building, BUET)

9:00 – 10:30 Session Chair: Prof. Md. Abdul Matin

| <i>Paper #</i> | <i>Title and Author</i> |
|----------------|--|
| ICME 11-FL-016 | NUMERICAL EXPERIMENTS ON HYSTERETIC PHENOMENA OF SHOCK WAVES IN SUPERSONIC NOZZLE <i>M.M. Ashraful Alam, Shigeru Matsuo, Junji Nagao, Toshiaki Setoguchi</i> |
| ICME 11-FL-017 | EFFECTS OF THE INTRODUCTION OF SEEPAGE ON THE BED STABILITY AND TURBULENCE CHARACTERISTICS IN AN OPEN CHANNEL FLOW <i>Md Abdullah Al Faruque and Ram Balachandar</i> |
| ICME 11-FL-037 | STUDY ON CHARACTERISTICS OF REAL GAS FLOW THROUGH A CRITICAL NOZZLE <i>Mamun Mohammad, Junji Nagao, Shigeru Matsuo, Toshiaki Setoguchi and Heuy Dong Kim</i> |
| ICME 11-FL-048 | MASS FLUX MEASUREMENT OF TWO-PHASE SPRAY BY AN IMPULSE PROBE AND PDPA <i>M.A. Rahman, F. Vakili, M.A. Islam, B.A. Fleck, D. Matovic, S. Sanders</i> |
| ICME 11-FL-049 | NUMERICAL STUDY FOR FORCED CONVECTIVE TURBULENT FLOW IN A RECTANGULAR ELBOW <i>Snehamoy Majumder, Debasish Roy, Rabin Debnath, Arindam Mandal and Somnath Bhattacharjee</i> |
| ICME 11-FL-052 | NUMERICAL INVESTIGATION ON THE BEHAVIOR OF MOVING LIQUID SHEET <i>Mohammad Ali, Akira Umemura and M. Quamrul Islam</i> |
| ICME 11-FL-053 | STUDY OF AC ELECTROSMOTIC FLOW DEVELOPED BY CO-PLANAR MICROELECTRODE ARRAY IN A SLIT MICROCHANNEL <i>Naheed Ferdous, Tariq Mahbub, and Noor Quddus</i> |

Session 23 (Technical Papers: TH)

Date: 20 December 2011 (Tuesday)

Venue: C (ME Department M.Sc. Room, EME Building, BUET)

9:00 – 10:30 **Session Chair: Dr. Saiful Bari**

| <i>Paper #</i> | <i>Title and Author</i> |
|----------------|---|
| ICME 11-TH-038 | PRESSURE-DRIVEN FLOW INSTABILITY WITH CONVECTIVE HEAT TRANSFER THROUGH A CURVED CHANNEL WITH STRONG CURVATURE <i>Rabindra Nath Mondal, Md. Sharif Uddin and Ariful Islam</i> |
| ICME 11-TH-039 | UNSTEADY HEAT AND FLUID FLOW THROUGH A CURVED RECTANGULAR DUCT OF LARGE ASPECT RATIO <i>Rabindra Nath Mondal, Md. Saidul Islam and Md. Kutub Uddin</i> |
| ICME 11-TH-040 | ANALYSIS OF A MICRO-CHANNEL HEAT EXCHANGER <i>Md. Arif Hasan Mamun, Mohammad Jane Alam Khan, Md. Rakibul Hasan</i> |
| ICME 11-TH-041 | FIRE SAFETY DESIGN USING LARGE EDDY SIMULATION MODELS: EME BUILDING OF BUET: A CASE STUDY <i>M. S. Hossain and M Mahbub</i> |
| ICME 11-TH-042 | STUDY OF TRANSIENT HEAT TRANSFER OF A SOLID WITH PROTECTIVE FABRIC UNDER HOT AIR JET IMPINGEMENT <i>MA Islam, AA Rezwan, S Hossain and AKMN Islam</i> |
| ICME 11-TH-043 | A DRIVING CYCLE FOR VEHICULAR EMISSION ESTIMATION IN DHAKA CITY <i>Ali Adnan, Tasnim Shireen and Noor Quddus</i> |
| ICME 11-TH-044 | EFFECT OF DIMENSIONLESS NUMBER ON NATURAL CONVECTION IN AN OPEN SQUARE CAVITY HAVING PARTIALLY HEATED SQUARE CYLINDER <i>Mohammed Nasir Uddin, Mohammad Abdul Alim</i> |

Session 24 (Technical Papers: RT)

Date: 20 December 2011 (Tuesday)

Venue: D (Conference Room, ME Dept., BUET)

9:00 – 10:30 **Session Chair: Prof. Maglub Al Nur**

| <i>Paper #</i> | <i>Title and Author</i> |
|----------------|---|
| ICME 11-RT-023 | STRUCTURAL, MAGNETIC AND MAGNETOCALORIC PROPERTIES AT HIGH TEMPERATURE IN CO ₅₀ MN ₃₀ IN ₁₅ SN ₅ ALLOY <i>M. Nazmunnahar, J.J. del Val, M. Ilyn, L. González, J. García, J.D. Santos, V.M. Prida, V. Koledov, B. Hernando, J. González</i> |
| ICME 11-RT-049 | INVENTORY MANAGEMENT OF PHARMACEUTICAL INDUSTRIES IN BANGLADESH <i>M. E. Hoque, N. Paul</i> |
| ICME 11-RT-050 | DEVELOPMENT OF A FUZZY LOGIC BASED SMART SOLAR SYSTEM FOR IRRIGATION <i>Md. Sharfaraj Hussain, Deen Md. Abdullah, Wali Md. Abdullah and Md. Liakot Ali</i> |

- ICME 11-RT-051 PREPARATION AND CHEMICAL ANALYSIS OF PLASMA POLYMERIZED N,N,3,5 TETRAMETHYLANILINE THIN FILM
H. Akther, A. H. Bhuiyan, Md. Asaduzzaman, and J. A. Syed
- ICME 11-RT-054 QUALITY IMPROVEMENT IN GARMENTS INDUSTRY THROUGH TQM APPROACH
Md.Mijanur Rahman, A.K.M. Masud
- ICME 11-RT-055 DESIGN OF A CLOSED LOOP SPEED CONTROLLER (MICRO CONTROLLER BASED) OF A DC MOTOR USING PWM
Mohammad Imran, Md. Zakaria Mahbub, Mohammad Ali and Saiham Siraj

Session 25 (Technical Papers: AM)

Date: 20 December 2011 (Tuesday)

Venue: A (Council Building, BUET)

11:00 – 13:00 **Session Chair: Prof. M Hosur**

| <i>Paper #</i> | <i>Title and Author</i> |
|----------------|--|
| ICME 11-AM-001 | INTERFACIAL FRACTURE STRENGTH MEASUREMENT OF BONE-PMMA CEMENT CONSTRUCTS <i>Morshed Khandaker and Yanling Li</i> |
| ICME 11-AM-028 | STRUCTURAL INTEGRITY EVALUATION OF A PWR OUTLET NOZZLE BY AN ADVANCED PFM CODE <i>Debashis Datta</i> |
| ICME 11-AM-033 | FINITE ELEMENT ANALYSIS OF A CNG CONVERTED DIESEL ENGINE PISTON FOR OPTIMUM DIMENSIONS <i>M. Y. Bhuiyan, K. Bairagi and M. Ehsan</i> |
| ICME 11-AM-040 | THERMAL AND MECHANICAL PROPERTIES OF LACCASE ENZYME-TREATED KENAF FIBRE REINFORCED RECYCLED POLYPROPYLENE COMPOSITES <i>M. R. Islam, M. D. H. Beg & A. Gupta</i> |
| ICME 11-AM-041 | FINITE ELEMENT ANALYSIS FOR MEASURING DISPLACEMENT AND BLOCKING FORCE OF PIEZOELECTRIC UNIMORPH AND COMPARISON OF DIFFERENT ACTIVE MATERIALS <i>Mohammad Ahsan Ullah, Md. Tofajjal Hossain Chowdhury and Lim Leong Chew</i> |
| ICME 11-AM-044 | APPLICATION OF VIBRATION FOR REDUCTION OF RING- TRAVELLER FRICTION OF A RING SPINNING FRAME <i>Hosne Ara Begum, Maksud Helali</i> |
| ICME 11-AM-045 | PREDICTION OF FRACTAL DIMENSION IN ALUMINIUM MILLING USING ARTIFICIAL NEURAL NETWORK <i>T K Barman, P Sahoo</i> |
| ICME 11-AM-051 | FREE VIBRATION OF COMPOSITE LAMINATED PLATES SUBJECTED TO HYGROTHERMAL LOADS <i>M. F. Haider and A. R. M. Ali</i> |

ICME 11-AM-052 EFFECT OF TEMPERATURE ON NATURAL FREQUENCY OF LAMINATED COMPOSITE PLATE
M. F. Haider and A. R. M. Ali

Session 26 (Technical Papers: FL)

Date: 20 December 2011 (Tuesday)

Venue: B (ME Departmental Library, EME Building, BUET)

11:00 – 13:00 **Session Chair: Prof. A F M Saleh**

| <i>Paper #</i> | <i>Title and Author</i> |
|----------------|--|
| ICME 11-FL-038 | EFFECTS OF VARIATION OF VISCOSITY, VISCOUS DISSIPATION AND CORIOLIS FORCE ON OBERBECK MAGNETOCONVECTION IN A CHIRAL FLUID IN THE PRESENCE OF A TRANSVERSE MAGNETIC FIELD <i>Sujatha N and N Rudraiah</i> |
| ICME 11-FL-039 | FINITE ELEMENT ANALYSIS OF MAGNETO-HYDRODYNAMIC (MHD) MIXED CONVECTION FLOW ON A TRIANGULAR CAVITY <i>Aki Farhana, Mohammed Nasir Uddin, Mohammad Abdul Alim</i> |
| ICME 11-FL-040 | GURNEY FLAP APPLICATIONS FOR AERODYNAMIC FLOW CONTROL <i>M. Suresh, N. Sitaram</i> |
| ICME 11-FL-041 | AERODYNAMIC CHARACTERISTICS OF A SIX BLADED SAVONIUS ROTOR <i>Shamsun Nahar, Md. Quamrul Islam, Mohammad Ali</i> |
| ICME 11-FL-042 | COMPARISON OF SPRAY CHARACTERISTIC BETWEEN PRESSURE ATOMIZER AND AIR ASSIST ATOMIZER <i>Aritra Ghosh, Atish Nandy, Ranjan Ganguly, Amitava Datta</i> |
| ICME 11-FL-043 | AN EXPERIMENTAL INVESTIGATION OF MULTI-BLADED S-SHAPED VANE TYPE ROTOR <i>Z. Afroz, M.Q. Islam and M. Ali</i> |
| ICME 11-FL-044 | DYNAMIC CHARECTERISTICS OF A VERTICAL AXIS VANE TYPE WIND TURBINE <i>Zulfa ferdous, Md. Quamrul Islam and M.Ali</i> |
| ICME 11-FL-047 | NUMERICAL SIMULATION OF MAGNETOHYDRODYNAMICS MIXED CONVECTION FLOW WHEN THE MAGNETIC FIELD, FREE STREAM VELOCITY AND SURFACE TEMPERATURE OSCILLATE SIMULTANEOUSLY <i>Muhammad Ashraf, S. Asghar and Md. Anwar Hossain</i> |
| ICME11-FL-057 | EFFECT OF TIME PERIOD OF PULSATION ON THE FLOW BEHAVIOR THROUGH AN ECCENTRIC STENOSED ARTERY <i>Md. Rezwanul Haque, Rahat Shikder and A.B.M. Toufique Hasan</i> |
| ICME11-FL-059 | PREDICTION OF SHOCK INDUCED BUFFET ONSET FOR FLOW OVER A SUPERCRITICAL AIRFOIL <i>Arif Abdullah Rokoni and A.B.M. Toufique Hasan</i> |

Session 27 (Technical Papers: RE)

Date: 20 December 2011 (Tuesday)

Venue: C (ME Department M.Sc. Room, EME Building, BUET)

11:00 – 13:00 **Session Chair: Prof. M. M. Alam**

| <i>Paper #</i> | <i>Title and Author</i> |
|----------------|---|
| ICME 11-RE-001 | A STUDY OF RENEWABLE SOLAR ENERGY SOURCES, REGARDING A COMPARISON BETWEEN THE PHOTOVOLTAIC (PV) SYSTEM AND CONCENTRATED SOLAR POWER (CSP) SYSTEM <i>Md. Saeed Ibne Mahbub, Md. Shahidul Alam</i> |
| ICME 11-RE-002 | A STUDY OF BIOMASS BRIQUETTE IN BANGLADESH <i>Md. Mahbulul Alam, Hafizul Islam, Mahmudul Hasan and Tanvir Ahmed Siddique</i> |
| ICME 11-RE-003 | BIOGAS FROM THERMOPHILIC ANAEROBIC DIGESTION OF COW DUNG <i>Bodius Salam, Sumana Biswas and Tilok Kumar Das</i> |
| ICME 11-RE-004 | AN APPROACH OF DESIGNING AND IMPLEMENTING HYBRID PHOTOVOLTAIC-WIND POWER PLANT FOR RELIABLE POWER GENERATION IN BANGLADESH <i>M.M. Ehsan, Enaiyat Ghani Ovy, H.A.Chowdhury, S.M.Ferdous</i> |
| ICME 11-RE-005 | MODIFIED HILL CLIMB SEARCHING METHOD FOR TRACKING MAXIMUM POWER POINT IN WIND ENERGY CONVERSION SYSTEMS <i>Farzia Karim, Md. Faruk Hossain and Md. Shah Alam</i> |
| ICME 11-RE-007 | SURROGATE MODELS FOR STALL REGULATED WIND TURBINES FOR IMPROVED PERFORMANCE PREDICTIONS <i>Donald Harby, Isaac Ofuafor, Ziaul Huque, A.B. Mahmud Hasan and Raghava Kommalapati</i> |
| ICME 11-RE-008 | A REVIEW OF POWER GENERATION FROM WIND IN AUSTRALIA <i>Abdulkadir Ali, Firoz Alam, Victor Djamovski and Simon Watkins</i> |
| ICME 11-RE-009 | SIMULATED PERFORMANCE OF AN INTEGRATED BIOMASS GASIFICATION COMBINED CYCLE EMPLOYING INDIRECTLY-HEATED GAS TURBINE <i>Pradip Mondal, Sudip Ghosh</i> |
| ICME 11-RE-010 | MOUNTING A SOLAR PANEL ON A 3-WHEELER ELECTRIC CAR (EASY BIKE) AND ANALYSIS <i>Mohammad Imran, Md. Saheduzzaman, Md. Zakaria Mahbub, Saiham Siraj, and. A. R. M. Harunur Rashid</i> |

Session 28 (Technical Papers: RT)

Date: 20 December 2011 (Tuesday)

Venue: D (Conference Room, ME Dept., BUET)

11:00 – 13:00 **Session Chair: Prof. Mrinal K. Ghose**

| <i>Paper #</i> | <i>Title and Author</i> |
|----------------|--|
| ICME 11-RT-019 | CHARACTERIZING AND MEASURING TEXTILE EFFLUENT POLLUTION USING A MATERIAL BALANCE APPROACH: BANGLADESH CASE STUDY <i>Mohidus Samad Khan, Samiya Selim, Alexandra E.V. Evans and Matthew Chadwick</i> |

- ICME 11-RT-026 THE EFFECT OF SINTERING TIME ON THE DENSIFICATION OF PURE NANO-SIZED BaTiO₃
Md. Muktadir Billah, Adnan Mousharraf and Md. Fakhru Islam
- ICME 11-RT-027 NATURAL GAS PRE-PAID METERING FOR DOMESTIC CUSTOMERS: EVALUATION OF THE PILOT PROJECT BY TITAS GAS TRANSMISSION AND DISTRIBUTION COMPANY LIMITED
Mahbubur Rahman and Golam Sarwar
- ICME 11-RT-028 RESERVOIR ENGINEERING STUDY OF A GAS FIELD IN THE LOWER BOKABIL SAND IN SURMA BASIN
Fatrick Nath, Mahbubur Rahman
- ICME 11-RT-033 IMPROVING WELDABILITY AND ASSOCIATED PROPERTIES BY WELDING UNDER VARIABLE EXTERNAL MAGNETIC FIELD
Md. Sayeed-Ur-Rahim Mahadi, Naseem Ahmed and Md. Safiqul Islam Rasel
- ICME 11-RT-034 EFFECT OF CARBON NANOTUBES ON THE MICROHARDNESS OF LEAD FREE SOLDERS FOR NANO-ELECTRONICS APPLICATION
M. A. Hossain, S. M. K. N. Islam, M. Billah, T. Alam and A. Sharif
- ICME 11-RT-043 EFFECT OF SPINDLE SPEED ON THE PHYSICAL PROPERTIES OF JUTE-COTTON BLENDED RING SPUN YARN
Md. Moslem Uddin, A.K.M. Masud and Md. Kamal Uddin
- ICME 11-RT-045 SIMULATION STUDY ON CNG STATION DISTRIBUTIONS IN INTERCITY NETWORK USING ARENA SOFTWARE
A. M. M. Mukaddes, Bivek Bikram Adhikari, Rakesh Kumar Sah

Session 29 (Technical Papers: AM)

Date: 20 December 2011 (Tuesday)

Venue: A (Council Building, BUET)

14:00 – 15:30 Session Chair: Dr. Byung-Sun Kim

- | <i>Paper #</i> | <i>Title and Author</i> |
|----------------|---|
| ICME 11-AM-035 | EFFECT OF ALKALI TREATMENT ON THE PERFORMANCE OF FLAX FIBER REINFORCED POLYESTER COMPOSITES <i>M. V. Hosur, H. Maroju and S. Jeelani</i> |
| ICME 11-AM-036 | CHARACTERIZATION OF NH ₂ -MWCNT/ EPOXY NANOCOMPOSITES USING TWO DIFFERENT CURING CYCLES <i>M.B.A. Salam, M.V. Hosur, S. Zainuddin, S. Jeelani</i> |
| ICME 11-AM-037 | EFFECT OF ENHANCED CROSSLINK DENSITY ON INTERFACIAL STRENGTH OF E-GLASS/EPOXY COMPOSITES MODIFIED BY AMINO-FUNCTIONALIZED MWCNTS <i>M. M. Rahman, S. Zainuddin, M. V. Hosur, A. Kumar, J. Trovillion, S. Jeelani</i> |
| ICME 11-AM-042 | SYNTHESIS AND CHARACTERIZATION OF BIO-BASED CaCO ₃ /POLYLITE POLYMER NANOCOMPOSITES <i>Tarig A. Hassan, Vijay K. Rangari and Shaik Jeelani</i> |
| ICME 11-AM-043 | MECHANICAL AND THERMAL CHARACTERIZATION OF COOH-FUNCTIONALIZED MWCNT INFUSED EPON 862 NANOCOMPOSITES <i>Nusrat Jahan, Mahesh V. Hosur, Shaik Zainuddin, Shaik Jeelani</i> |

ICME 11-AM-050 THEORETICAL AND EXPERIMENTAL INVESTIGATION OF RESPONSE TIME
IN PRESSURE MEASUREMENT WITH μ -TUBES
A. S. M. Atiqul Islam, A. M. Afsar and Jeung Sang Go

Session 30(Technical Papers: FL)

Date: 20 December 2011 (Tuesday)

Venue: B (ME Departmental Library, EME Building, BUET)

14:00 – 16:00 **Session Chair: Prof. G. M. Khalil**

| <i>Paper #</i> | <i>Title and Author</i> |
|-----------------------|---|
| ICME 11-FL-012 | NON-ISOTHERMAL FLOW THROUGH A ROTATING STRAIGHT DUCT WITH RECTANGULAR CROSS-SECTION <i>Mohammad Wahiduzzaman and Md. Mahmud Alam</i> |
| ICME 11-FL-022 | EFFECT OF BLEACH WASH ON THE PHYSICAL AND MECHANICAL PROPERTIES OF DENIM GARMENTS <i>Md. Mashiur Rahman Khan, Md. Ibrahim H. Mondal and Md. Zulhash Uddin</i> |
| ICME 11-FL-027 | EFFECTS OF GRAVITY AND FLUID PROPERTIES ON ISOTHERMAL HIGH SPEED TWO-LAYER FILAMENT JET FLOW <i>Z. U. Ahmed, M. A. Wakil</i> |
| ICME 11-FL-034 | A STUDY OF BASEBALL AERODYNAMIC DRAG <i>Firoz Alam, Huy Ho, Jie Yang, Arun Kumar, Roesfiansjah Rasjadin, Syed Amimul Ehsan, Golam Mainuddin² and Shariful Islam</i> |
| ICME 11-FL-035 | A STUDY OF AERODYNAMIC DRAG OF AMERICAN FOOTBALLS <i>Firoz Alam, Sean Smith, Victor Djamovski, Golam Mainuddin, Jie Yang, Syed Amimul Ehsan and Arun Kumar</i> |
| ICME 11-FL-045 | DETERMINATION OF LOSS COEFFICIENT FOR FLOW THROUGH FLEXIBLE PIPES AND BENDS <i>S. Ahmed, M. Q. Islam and A. S. M. Jonayat</i> |
| ICME 11-FL-050 | EFFECT OF DIAMETER RATIO OF ADIABATIC CYLINDER ON NATURAL CONVECTION FROM A SQUARE OPEN CAVITY <i>Fariza Tul Koabra and Md. Abdul Alim</i> |
| ICME 11-FL-051 | APPLICATION OF COMPUTATIONAL FLUID DYNAMICS TO SIMULATE CAVITATING FLOW AROUND HYDROFOIL <i>Mohammad Shakil Ahmmed and M. M. Karim</i> |
| ICME 11-FL-058 | FLOW PAST A SHALLOWLY SUBMERGED CYLINDER <i>Md. Ashim Ali, Abu Bakar Siddke and Md. Zulfiqar Haider</i> |

Session 31 (Technical Papers: TH, RE)

Date: 20 December 2011 (Tuesday)

Venue: C (ME Department M.Sc. Room, EME Building, BUET)

14:00 – 16:00 **Session Chair: Prof. M. A. Rashid Sarkar**

| <i>Paper #</i> | <i>Title and Author</i> |
|----------------|--|
| ICME 11-TH-019 | EFFECT OF DESIGN-PARAMETERS OF HEAT EXCHANGER ON RECOVERING HEAT FROM EXHAUST OF AUTOMOTIVE DIESEL ENGINE USING ORGANIC RANKINE CYCLE <i>S. N. Hossain and S Bari</i> |
| ICME 11-TH-033 | FREE CONVECTION HEAT TRANSFER THROUGH COUPLED THERMAL BOUNDARY LAYERS IN A PARTITIONED TRIANGULAR ENCLOSURE <i>Suvash C. Saha, Y. T. Gu and Md. Anwar Hossain</i> |
| ICME 11-TH-034 | EXPERIMENTAL INVESTIGATION OF THERMAL CONDUCTIVITY AND THERMAL DIFFUSIVITY OF ETHYLENE GLYCOL-BASED NANOFLUIDS <i>S.M. Sohel Murshed, C.A. Nieto de Castro, M.J.V. Lourenço, M.L. Matos Lopes and F.J.V. Santos</i> |
| ICME 11-TH-036 | COMBINED EFFECT OF TEMPERATURE DEPENDENT VISCOSITY AND THERMAL CONDUCTIVITY ON MHD FREE CONVECTION FLOW ALONG A VERTICAL WAVY SURFACE <i>Nazma Parveen and Md. Abdul Alim</i> |
| ICME 11-TH-037 | MIXED CONVECTION WITH ISOFLUX HEATING FROM BOTTOM IN A TILTED LID-DRIVEN TRAPEZOIDAL ENCLOSURE <i>Md. Tofajjal Hossain Chowdhury and Goutam Saha</i> |
| ICME 11-TH-046 | FINITE ELEMENT ANALYSIS OF MIXED CONVECTION HEAT TRANSFER ENHANCEMENT OF A HEATED SQUARE HOLLOW CYLINDER IN A LID-DRIVEN RECTANGULAR ENCLOSURE <i>M. M. Billah, M. M. Rahman, M. S. Uddin and M.K. Chowdhury</i> |
| ICME 11-RE-011 | A NOVEL APPROACH TO PROVIDE FIRM POWER WITH THE INTEGRATION OF PICO HYDRO TURBINE AND WIND TURBINE INSTALLED AT THE HIGH-RISE BUILDING <i>M.M. Ehsan, Enaiyat Ghani Ovy, Kazy Fayeem Shariar, S.M.Ferdous</i> |
| ICME 11-RE-013 | ESTIMATION OF WIND RESOURCES AT COMMERCIAL ALTITUDES FOR UNITED NATION SURVEYED INLAND AND COASTAL REGIONS OF BANGLADESH <i>Apratim Roy</i> |
| ICME 11-RE-014 | EFFECT OF WIND SHEAR COEFFICIENT ON WIND VELOCITY AT COASTAL SITES OF BANGLADESH <i>A. K. Azad, M. M. Alam and Manabendra Saha</i> |

Session 32 (Technical Papers: RT)

Date: 20 December 2011 (Tuesday)

Venue: D (Conference Room, ME Dept., BUET)

14:00 – 16:00 **Session Chair: Dr. Feroz Alam**

| <i>Paper #</i> | <i>Title and Author</i> |
|----------------|---|
| ICME 11-RT-009 | STABILIZATION OF WIND FARM INTEGRATED POWER SYSTEM BY USING STATCOM/SMES <i>M.R.I. Sheikh, M. A. Hossain and M. Shahed</i> |
| ICME 11-RT-025 | DESIGN AND IMPLEMENT OF A STATE FEEDBACK POSITION OUTPUT CONTROLLER FOR A MAXON S-DC MOTOR WITH dSPACE <i>S. K. Das, N. Mondol and N. A. Sultana</i> |
| ICME 11-RT-036 | PD CONTROLLER FOR BALANCING AN INVERTED PENDULUM CART <i>Mahadi Hasan, Dr. Mongkol Ekpanyapong, Md. Abdul Wakil, Md. Ashrafur Islam, Abhisesh Silwal and Jakkrit Sivapornsatian</i> |
| ICME 11-RT-042 | COMPARATIVE STUDY ON ORIFICE VERSUS TURBINE METERS FOR GAS FLOW MEASUREMENT <i>Mohammad Sohrab Hossain, Golam Faroque and Mahbubur Rahman</i> |
| ICME 11-RT-046 | PROCESSING AND CHARACTERIZATION OF SiC _p REINFORCED ZINC-ALUMINUM METAL MATRIX COMPOSITES AS BEARING MATERIALS <i>Khan Hasib Kaisar, Md. Nasrul Haque and Kazi Md. Shorowordi</i> |
| ICME 11-RT-047 | BIREFRINGENCE PROPERTIES OF PHOTONIC CRYSTAL FIBER BASED ON HEXAGONAL AND OCTAGONAL AIR HOLE UNDER EXTERNAL STRESS <i>M. R. Khatun and M. S. Islam</i> |
| ICME 11-RT-052 | STUDY OF EXISTING RICKSHAW AND POSSIBLE DESIGN MODIFICATIONS <i>A. H. M. Mahbub Morshed, Imran Rahman and Md. Ehsan</i> |
| ICME 11-RT-053 | DESIGN AND DEVELOPMENT OF AN ELECTRIC HYBRID RICKSHAW <i>Sudarshan Chandra Saha, Anjan Goswami and Md. Ehsan</i> |