

Aspen Plus Innovations

WHEN PEOPLE SHOULD GO TO THE BOOK STORES, SEARCH LAUNCH BY SHOP, SHELF BY SHELF, IT IS IN POINT OF FACT PROBLEMATIC. THIS IS WHY WE PRESENT THE BOOKS COMPILATIONS IN THIS WEBSITE. IT WILL UNQUESTIONABLY EASE YOU TO LOOK GUIDE **ASPEN PLUS INNOVATIONS** AS YOU SUCH AS.

BY SEARCHING THE TITLE, PUBLISHER, OR AUTHORS OF GUIDE YOU REALLY WANT, YOU CAN DISCOVER THEM RAPIDLY. IN THE HOUSE, WORKPLACE, OR PERHAPS IN YOUR METHOD CAN BE ALL BEST AREA WITHIN NET CONNECTIONS. IF YOU POINT TOWARD TO DOWNLOAD AND INSTALL THE ASPEN PLUS INNOVATIONS, IT IS UNCONDITIONALLY EASY THEN, BEFORE CURRENTLY WE EXTEND THE LINK TO PURCHASE AND MAKE BARGAINS TO DOWNLOAD AND INSTALL ASPEN PLUS INNOVATIONS FITTINGLY SIMPLE!

TEACH YOURSELF THE BASICS OF ASPEN PLUS RALPH SCHEFFLAN 2011-04-12 ASPEN PLUS IS ONE OF THE MOST POPULAR PROCESS SIMULATION SOFTWARE PROGRAMS USED INDUSTRIALLY AND ACADEMICALLY. THOUGH THE SOFTWARE IS AVAILABLE AT MANY CORPORATIONS AND UNIVERSITIES, THERE ARE NO TEXTBOOKS WHICH ARE DEDICATED TO TEACHING THE STEP-BY-STEP USE OF THE SOFTWARE. THIS BOOK IS DESIGNED TO FILL THAT NEED. THE STRUCTURE OF THE BOOK IS UNIQUE IN THAT IT EMULATES A LECTURE /WORKSHOP CLASSROOM ENVIRONMENT. EACH CHAPTER STARTS WITH THE EQUIVALENT OF A CLASSROOM LECTURE FOLLOWED BY WORKSHOPS WHICH PROVIDE EXPERIENCE IN THE CHAPTER'S SUBJECT MATTER. THE ENCLOSED CD CONTAINS SOLUTIONS, BOTH IN ASPEN PLUS AND TEXT FORMATS, TO EXAMPLES IMBEDDED IN THE TEXT AS WELL AS TO ALL THE WORKSHOPS. THERE ARE ALSO NOTES AT THE END OF EACH CHAPTER DESIGNED TO AID READERS THAT HAVE DIFFICULTY WITH THE WORKSHOPS. NOTE: CD-ROM/DVD AND OTHER SUPPLEMENTARY MATERIALS ARE NOT INCLUDED AS PART OF eBook FILE.

FEATURE PAPERS MICHAEL HENSON 2018-10-04 THIS BOOK IS A PRINTED EDITION OF THE SPECIAL ISSUE "FEATURE PAPERS" THAT WAS PUBLISHED IN PROCESSES

INNOVATIONS IN FERMENTATION AND PHYTOPHARMACEUTICAL TECHNOLOGIES HRUDAYANATH THATOI 2022-06-14 INNOVATIONS IN FERMENTATION AND PHYTOPHARMACEUTICAL TECHNOLOGIES DISCUSSES RECENT ADVANCEMENTS IN THE FIELD OF DIFFERENT BIOPROCESSING ASPECTS FOR THE DEVELOPMENT OF DIFFERENT REACTORS, FERMENTED PRODUCTS AND PHYTOPHARMACEUTICALS. WRITTEN BY LEADING EXPERTS IN THE FIELD, THE BOOK PRESENTS THE BASIC PRINCIPLES OF UPSTREAM PROCESSING TECHNIQUES, ADVANCED DOWNSTREAM PROCESS TECHNOLOGIES, AND RECYCLING OF BY-PRODUCTS DURING FORMATION/PRODUCTION OF VARIOUS FERMENTED AND PHYTOPHARMACEUTICAL PRODUCTS. THE INFORMATIVE CHAPTERS IN THE BOOK OUTLINE AN APPLICATION-ORIENTED PATH FOR ACADEMICIANS, RESEARCHERS AND SCIENTISTS IN THE FIELD OF INDUSTRIAL FERMENTATION TECHNOLOGY AND PHYTOPHARMACEUTICAL PRODUCTION. INCLUDES CONCEPTS AND EXAMPLES OF BIOREACTORS, FERMENTATION PROCESSES, FERMENTATIVE AND PHYTOPHARMACEUTICAL PRODUCTS DESCRIBES THE APPLICATION OF CONCEPTS OF PRODUCT FORMATION, PRODUCT RECOVERY AND WASTE UTILIZATION PROVIDES NEW UPDATES OF INFORMATION ON THE TECHNOLOGICAL ASPECTS OF UPSTREAM AND DOWNSTREAM PROCESSES/EQUIPMENT AND THEIR RESPECTIVE PRODUCTS

USING ASPEN PLUS IN THERMODYNAMICS INSTRUCTION STANLEY I. SANDLER 2015-03-19 A STEP-BY-STEP GUIDE FOR STUDENTS (AND FACULTY) ON THE USE OF ASPEN IN TEACHING THERMODYNAMICS • EASILY-ACCESSIBLE MODERN COMPUTATIONAL TECHNIQUES OPENING UP NEW VISTAS IN TEACHING THERMODYNAMICS A RANGE OF APPLICATIONS OF ASPEN PLUS IN THE PREDICTION AND CALCULATION OF THERMODYNAMIC PROPERTIES AND PHASE BEHAVIOR USING THE STATE-OF-THE ART METHODS • ENCOURAGES STUDENTS TO DEVELOP ENGINEERING INSIGHT BY DOING REPETITIVE CALCULATIONS WITH CHANGES IN PARAMETERS AND/OR MODELS • CALCULATIONS AND APPLICATION EXAMPLES IN A STEP-BY-STEP MANNER DESIGNED FOR OUT-OF-CLASSROOM SELF-STUDY • MAKES IT POSSIBLE TO EASILY INTEGRATE ASPEN PLUS INTO THERMODYNAMICS COURSES WITHOUT USING IN-CLASS TIME • STRESSES THE APPLICATION OF THERMODYNAMICS TO REAL PROBLEMS

ADVANCED RESEARCH ON AUTOMATION, COMMUNICATION, ARCHITECTONICS AND MATERIALS HELEN ZHANG 2011-04-19 IN THIS SPECIAL COLLECTION OF OVER 304 PEER-REVIEWED PAPERS, ARE TO BE FOUND SOME ORIGINAL IDEAS AND ANGLES ON EVERY ASPECT OF AUTOMATION, COMMUNICATION, ARCHITECTONICS AND MATERIALS. RESEARCHERS HERE EXCHANGE THEIR INNOVATIVE IDEAS AND NEW PERSPECTIVES. THE BOOK WILL PROVIDE INVALUABLE GUIDANCE TO SCIENTISTS, PHYSICISTS, CHEMISTS AND TEACHERS CONCERNING THE TOPICS COVERED. VOLUME IS INDEXED BY THOMSON REUTERS CPCI-S (WoS).

30TH EUROPEAN SYMPOSIUM ON COMPUTER AIDED CHEMICAL ENGINEERING SAURO PIERUCCI 2020-10-23 30TH EUROPEAN

SYMPOSIUM ON COMPUTER AIDED CHEMICAL ENGINEERING, VOLUME 47 CONTAINS THE PAPERS PRESENTED AT THE 30TH EUROPEAN SYMPOSIUM OF COMPUTER AIDED PROCESS ENGINEERING (ESCAPE) EVENT HELD IN MILAN, ITALY, MAY 24-27, 2020. IT IS A VALUABLE RESOURCE FOR CHEMICAL ENGINEERS, CHEMICAL PROCESS ENGINEERS, RESEARCHERS IN INDUSTRY AND ACADEMIA, STUDENTS, AND CONSULTANTS FOR CHEMICAL INDUSTRIES. PRESENTS FINDINGS AND DISCUSSIONS FROM THE 30TH EUROPEAN SYMPOSIUM OF COMPUTER AIDED PROCESS ENGINEERING (ESCAPE) EVENT OFFERS A VALUABLE RESOURCE FOR CHEMICAL ENGINEERS, CHEMICAL PROCESS ENGINEERS, RESEARCHERS IN INDUSTRY AND ACADEMIA, STUDENTS, AND CONSULTANTS FOR CHEMICAL INDUSTRIES

WASTE BIOREFINERY THALLADA BHASKAR 2020-03-13 WASTE BIOREFINERY: INTEGRATING BIOREFINERIES FOR WASTE VALORISATION PROVIDES THE VARIOUS OPTIONS AVAILABLE FOR SEVERAL RENEWABLE WASTE STREAMS. THE BOOK INCLUDES SCIENTIFIC AND TECHNICAL INFORMATION PERTAINING TO THE MOST ADVANCED AND INNOVATIVE PROCESSING TECHNOLOGIES USED FOR THE CONVERSION OF BIOGENIC WASTE TO BIOFUELS, ENERGY PRODUCTS AND BIOCHEMICALS. IN ADDITION, THE BOOK REPORTS ON RECENT DEVELOPMENTS AND NEW ACHIEVEMENTS IN THE FIELD OF BIOCHEMICAL AND THERMO-CHEMICAL METHODS AND THE NECESSITIES AND POTENTIAL GENERATED BY DIFFERENT KINDS OF BIOMASS IN PRESUMABLY MORE DECENTRALIZED BIOREFINERIES. THE BOOK PRESENTS AN ASSORTMENT OF CASE-STUDIES FROM DEVELOPING AND DEVELOPED COUNTRIES PERTAINING TO THE USE OF SUSTAINABLE TECHNOLOGIES FOR ENERGY RECOVERY FROM DIFFERENT WASTE MATRICES. ADVANTAGES AND LIMITATIONS OF DIFFERENT TECHNOLOGIES ARE ALSO DISCUSSED BY CONSIDERING THE LOCAL ENERGY DEMANDS, GOVERNMENT POLICIES, ENVIRONMENTAL IMPACTS, AND EDUCATION IN BIOENERGY. PROVIDES INFORMATION ON THE MOST ADVANCED AND INNOVATIVE PROCESSES FOR BIOMASS CONVERSION COVERS INFORMATION ON BIOCHEMICAL AND THERMO-CHEMICAL PROCESSES AND PRODUCTS DEVELOPMENT ON THE PRINCIPLES OF BIOREFINERY INCLUDES INFORMATION ON THE INTEGRATION OF PROCESSES AND TECHNOLOGIES FOR THE PRODUCTION OF BIOFUELS, ENERGY PRODUCTS AND BIOCHEMICALS DEMONSTRATES THE APPLICATION OF VARIOUS PROCESSES WITH PROVEN CASE STUDIES

INNOVATIONS IN THERMOCHEMICAL TECHNOLOGIES FOR BIOFUEL PROCESSING SONIL NANDA 2022-03-28 INNOVATIONS IN THERMOCHEMICAL TECHNOLOGIES FOR BIOFUEL PROCESSING BROADLY COVERS CURRENT TECHNOLOGIES IN ALTERNATE FUELS AND CHEMICAL PRODUCTION, A FEW OF WHICH INCLUDE BIOMASS-TO-LIQUID, BIOMASS-TO-GAS AND GAS-TO-LIQUID BIOMASS CONVERSION TECHNOLOGIES. THE TOPICS IN THIS BOOK INCLUDE ELABORATIVE DISCUSSIONS ON BIOMASS FEEDSTOCKS, BIOMASS-TO-LIQUID TECHNOLOGIES (LIQUEFACTION, PYROLYSIS AND TRANSESTERIFICATION), BIOMASS-TO-GAS TECHNOLOGIES (GASIFICATION), GAS-TO-LIQUID TECHNOLOGIES (SYNGAS FERMENTATION AND FISCHER-TROPSCH SYNTHESIS), CO-PROCESSING TECHNOLOGIES, FUEL UPGRADING TECHNOLOGIES (HYDROTREATING AND REFORMING), NOVEL CATALYST DEVELOPMENT FOR BIOREFINING, BIOREFINING PROCESS OPTIMIZATION, UNIT OPERATIONS, REACTION KINETICS, ARTIFICIAL NEURAL NETWORK, AND MUCH MORE. THE BOOK COMPREHENSIVELY DISCUSSES THE STRENGTHS, WEAKNESSES, OPPORTUNITIES AND THREATS OF NOTABLE BIOFUELS (E.G., BIO-OIL, BIOCRUDE OIL, BIODIESEL, BIOETHANOL, BIOBUTANOL, BIO-JET FUELS, BIOHYDROGEN, BIOMETHANE, SYNTHESIS GAS, HYDROCARBON FUELS, ETC.). ADDRESSES SOLUTIONS FOR CLEAN FUEL, ENERGY SECURITY, WASTE MANAGEMENT, WASTE VALORIZATION, REDUCED GREENHOUSE GAS EMISSIONS, CARBON CAPTURE AND SEQUESTRATION, CIRCULAR ECONOMY AND CLIMATE CHANGE MITIGATION INCLUDES APPLICATIONS OF THERMOCHEMICAL CONVERSION AND REFORMING TECHNOLOGIES FOR WASTE BIOMASS TO BIOFUELS COVERS CURRENT TECHNOLOGIES IN ALTERNATE FUELS AND CHEMICALS PRODUCTION, A FEW OF WHICH INCLUDE CONVERSION TECHNOLOGIES (I.E., LIQUEFACTION, GASIFICATION, PYROLYSIS, TORREFACTION, TRANSESTERIFICATION, ORGANIC TRANSFORMATION, CARBON-CARBON AND CARBON-HETEROATOM COUPLING REACTIONS, OXIDATION, AND REFORMING PROCESSES, ETC.), HYDROTREATING TECHNOLOGIES (I.E., HYDROGENATION, HYDRODESULFURIZATION, HYDRODENITROGENATION, HYDRODEAROMATIZATION AND HYDRODEMATALIZATION) AND CATALYTIC PROCESSES.

PROCESS ANALYSIS AND SIMULATION IN CHEMICAL ENGINEERING IV n DAR o GIL CHAVES 2015-11-27 THIS BOOK OFFERS A COMPREHENSIVE COVERAGE OF PROCESS SIMULATION AND FLOWSHEETING, USEFUL FOR UNDERGRADUATE STUDENTS OF CHEMICAL ENGINEERING AND PROCESS ENGINEERING AS THEORETICAL AND PRACTICAL SUPPORT IN PROCESS DESIGN, PROCESS SIMULATION, PROCESS ENGINEERING, PLANT DESIGN, AND PROCESS CONTROL COURSES. THE MAIN CONCEPTS RELATED TO PROCESS SIMULATION AND APPLICATION TOOLS ARE PRESENTED AND DISCUSSED IN THE FRAMEWORK OF TYPICAL PROBLEMS FOUND IN ENGINEERING DESIGN. THE TOPICS PRESENTED IN THE CHAPTERS ARE ORGANIZED IN AN INDUCTIVE WAY, STARTING FROM THE MORE SIMPLISTIC SIMULATIONS UP TO SOME COMPLEX PROBLEMS.

26TH EUROPEAN SYMPOSIUM ON COMPUTER AIDED PROCESS ENGINEERING 2016-06-17 26TH EUROPEAN SYMPOSIUM ON COMPUTER AIDED PROCESS ENGINEERING CONTAINS THE PAPERS PRESENTED AT THE 26TH EUROPEAN SOCIETY OF COMPUTER-AIDED PROCESS ENGINEERING (ESCAPE) EVENT HELD AT PORTORO Slovenia, FROM JUNE 12TH TO JUNE 15TH, 2016. THEMES DISCUSSED AT THE CONFERENCE INCLUDE PROCESS-PRODUCT SYNTHESIS, DESIGN AND INTEGRATION, MODELLING, NUMERICAL ANALYSIS, SIMULATION AND OPTIMIZATION, PROCESS OPERATIONS AND CONTROL AND EDUCATION IN CAPE/PSE. PRESENTS FINDINGS AND DISCUSSIONS FROM THE 26TH EUROPEAN SOCIETY OF COMPUTER-AIDED PROCESS ENGINEERING (ESCAPE) EVENT

23 EUROPEAN SYMPOSIUM ON COMPUTER AIDED PROCESS ENGINEERING Gr² GOIRE L² ONARD 2013-06-10 A DYNAMIC MODEL OF A POST-COMBUSTION CAPTURE PILOT PLANT IS DEVELOPED USING ASPEN PLUS DYNAMICS. AN INNOVATIVE PROCESS CONTROL STRATEGY IS STUDIED FOR REGULATING THE WATER BALANCE OF THE PROCESS. A WASHING SECTION WHERE THE FLUE GAS FROM THE ABSORBER IS WASHED WITH COLD WATER IS INCLUDED TO THE PROCESS IN ORDER TO REDUCE THE EMISSIONS OF AMINE TO THE AIR. CONTROL OF THE WATER BALANCE IN THE SOLVENT LOOP IS SUCCESSFULLY ACHIEVED BY CHANGING THE WASHING WATER TEMPERATURE. IN PREVIOUS PUBLICATIONS REGARDING CO₂ CAPTURE PILOT PLANTS, THE REGULATION OF THE WATER BALANCE ALWAYS REQUIRED A WATER MAKE-UP FLOW WHICH APPEARS HERE AS UNNECESSARY. REJECTION OF DISTURBANCES AND DIFFERENT LOAD REDUCTION SCENARIOS ARE TESTED TO CONFIRM THE EFFICIENCY OF THIS STRATEGY. POTENTIAL OPERATIONAL PROBLEMS OF THIS CONTROL STRATEGY ARE IDENTIFIED AND SOLVED.

DEVELOPMENTS AND INNOVATION IN CARBON DIOXIDE (CO₂) CAPTURE AND STORAGE TECHNOLOGY M. MERCEDES MAROTO-VALER 2010-06-21 CARBON DIOXIDE (CO₂) CAPTURE AND STORAGE (CCS) IS THE ONE ADVANCED TECHNOLOGY THAT CONVENTIONAL POWER GENERATION CANNOT DO WITHOUT. CCS TECHNOLOGY REDUCES THE CARBON FOOTPRINT OF POWER PLANTS BY CAPTURING AND STORING THE CO₂ EMISSIONS FROM BURNING FOSSIL-FUELS AND BIOMASS. THIS VOLUME PROVIDES A COMPREHENSIVE REFERENCE ON THE STATE OF THE ART RESEARCH, DEVELOPMENT AND DEMONSTRATION OF CARBON CAPTURE TECHNOLOGY IN THE POWER SECTOR AND IN INDUSTRY. IT CRITICALLY REVIEWS THE RANGE OF POST- AND PRE-COMBUSTION CAPTURE AND COMBUSTION-BASED CAPTURE PROCESSES AND TECHNOLOGY APPLICABLE TO FOSSIL-FUEL POWER PLANTS, AS WELL AS APPLICATIONS OF CCS IN OTHER HIGH CARBON FOOTPRINT INDUSTRIES. FOREWORD WRITTEN BY LORD OXBURGH, CLIMATE SCIENCE PEER REVIEWS THE ECONOMICS, REGULATION AND PLANNING OF CARBON CAPTURE AND STORAGE FOR POWER PLANTS AND INDUSTRY EXPLORES DEVELOPMENTS IN COMBUSTION PROCESSES AND TECHNOLOGIES FOR CO₂ CAPTURE IN POWER PLANTS

ENERGY SYSTEMS RENAUD GICQUEL 2012-01-27 CONSIDERED AS PARTICULARLY DIFFICULT BY GENERATIONS OF STUDENTS AND ENGINEERS, THERMODYNAMICS APPLIED TO ENERGY SYSTEMS CAN NOW BE TAUGHT WITH AN ORIGINAL INSTRUCTION METHOD. ENERGY SYSTEMS APPLIES A COMPLETELY DIFFERENT APPROACH TO THE CALCULATION, APPLICATION AND THEORY OF MULTIPLE ENERGY CONVERSION TECHNOLOGIES. IT AIMS TO CREATE THE READER'S FOUNDATION FOR UNDERSTANDING AND APPLYING THE DESIGN PRINCIPLES TO ALL KINDS OF ENERGY CYCLES, INCLUDING RENEWABLE ENERGY. PROVEN TO BE SIMPLER AND MORE REFLECTIVE THAN EXISTING METHODS, IT DEALS WITH ENERGY SYSTEM MODELING, INSTEAD OF THE THERMODYNAMIC FOUNDATIONS, AS THE PRIMARY OBJECTIVE. ALTHOUGH ITS STYLE IS DRASTICALLY DIFFERENT FROM OTHER TEXTBOOKS, NO CONCESSION IS DONE TO COVERAGE: WITH ENCOURAGING PACE, THE COMPLETE RANGE FROM BASIC THERMODYNAMICS TO THE MOST ADVANCED ENERGY SYSTEMS IS ADDRESSED. THE ACCOMPANYING THERMOPTIM™ PORTAL ([HTTP://DIRENS.MINES-PARISTECH.FR/SITES/THOPT/EN/CO/_ARBORESCENCE_WEB.HTML](http://dicens.mines-paristech.fr/sites/thopt/en/co/_Arborescence_web.html)) PRESENTS THE SOFTWARE AND MANUALS (IN ENGLISH AND FRENCH) TO SOLVE OVER 200 EXAMPLES, AND PROGRAMMING AND DESIGN TOOLS FOR EXERCISES OF ALL LEVELS OF COMPLEXITY. THE READER IS EXPLAINED HOW TO BUILD APPROPRIATE MODELS TO BRIDGE THE TECHNOLOGICAL REALITY WITH THE THEORETICAL BASIS OF ENERGY ENGINEERING. OFFERING QUICK OVERVIEWS THROUGH E-LEARNING MODULES MOREOVER, THE PORTAL IS USER-FRIENDLY AND ENABLES TO QUICKLY BECOME FULLY OPERATIONAL. STUDENTS CAN FREELY DOWNLOAD THE THERMOPTIM™ MODELING SOFTWARE DEMO VERSION (IN SEVEN LANGUAGES) AND EXTENDED OPTIONS ARE AVAILABLE TO LECTURERS. A PROFESSIONAL EDITION IS ALSO AVAILABLE AND HAS BEEN ADOPTED BY MANY COMPANIES AND RESEARCH INSTITUTES WORLDWIDE - WWW.THERMOPTIM.ORG THIS VOLUME IS INTENDED AS FOR COURSES IN APPLIED THERMODYNAMICS, ENERGY SYSTEMS, ENERGY CONVERSION, THERMAL ENGINEERING TO SENIOR UNDERGRADUATE AND GRADUATE-LEVEL STUDENTS IN MECHANICAL, ENERGY, CHEMICAL AND PETROLEUM ENGINEERING. STUDENTS SHOULD ALREADY HAVE TAKEN A FIRST YEAR COURSE IN THERMODYNAMICS. THE REFRESHING APPROACH AND EXCEPTIONALLY RICH COVERAGE MAKE IT A GREAT REFERENCE TOOL FOR RESEARCHERS AND PROFESSIONALS ALSO. CONTAINS INTERNATIONAL UNITS (SI).

29TH EUROPEAN SYMPOSIUM ON COMPUTER AIDED CHEMICAL ENGINEERING ANTON A. KISS 2019-07-03 THE 29TH EUROPEAN SYMPOSIUM ON COMPUTER AIDED PROCESS ENGINEERING, CONTAINS THE PAPERS PRESENTED AT THE 29TH EUROPEAN SYMPOSIUM OF COMPUTER AIDED PROCESS ENGINEERING (ESCAPE) EVENT HELD IN EINDHOVEN, THE NETHERLANDS, FROM JUNE 16-19, 2019. IT IS A VALUABLE RESOURCE FOR CHEMICAL ENGINEERS, CHEMICAL PROCESS ENGINEERS, RESEARCHERS IN INDUSTRY AND ACADEMIA, STUDENTS, AND CONSULTANTS FOR CHEMICAL INDUSTRIES. PRESENTS FINDINGS AND DISCUSSIONS FROM THE 29TH EUROPEAN SYMPOSIUM OF COMPUTER AIDED PROCESS ENGINEERING (ESCAPE) EVENT

22ND EUROPEAN SYMPOSIUM ON COMPUTER AIDED PROCESS ENGINEERING IAN DAVID LOCKHART BOGLE 2012 COMPUTER AIDED PROCESS ENGINEERING (CAPE) PLAYS A KEY DESIGN AND OPERATIONS ROLE IN THE PROCESS INDUSTRIES. THIS CONFERENCE FEATURES PRESENTATIONS BY CAPE SPECIALISTS AND ADDRESSES STRATEGIC PLANNING, SUPPLY CHAIN ISSUES AND THE INCREASINGLY IMPORTANT AREA OF SUSTAINABILITY AUDITS. EXPERTS COLLECTIVELY HIGHLIGHT THE NEED FOR CAPE PRACTITIONERS TO EMBRACE THE THREE COMPONENTS OF SUSTAINABLE DEVELOPMENT: ENVIRONMENTAL, SOCIAL AND ECONOMIC PROGRESS AND THE ROLE OF

SYSTEMATIC AND SOPHISTICATED CAPE TOOLS IN DELIVERING THESE GOALS.

MANAGING NATURAL RESOURCES GERARD GEORGE MANAGING THE NATURAL ENVIRONMENT IS FUNDAMENTAL TO MANY BUSINESSES, YET MANAGEMENT SCHOLARS HAVE UNDERSTUDIED HOW NATURAL RESOURCES ARE ACQUIRED AND DEPLOYED, HOW THEY CONSTRAIN AND CHALLENGE STRATEGY AND INNOVATION, AND HOW THEY DIFFER FROM MORE CONVENTIONALLY STUDIED RESOURCES IN MANAGEMENT. THIS BOOK CAPTURES LEADING AND THOUGHT-PROVOKING CONCEPTUAL AND EMPIRICAL CONTRIBUTIONS ON HOW ORGANIZATIONS (OUGHT TO) INTERACT WITH SUCH NATURAL RESOURCES. THE AUTHORS APPLY AND EXTEND MANAGEMENT THEORIES TO THE NATURAL RESOURCE CONTEXT, THEREBY OPENING UP MULTIPLE AVENUES FOR FUTURE RESEARCH.

PLUNKETT'S INFOTECH INDUSTRY ALMANAC 2009 JACK W. PLUNKETT 2009-02-01 PLUNKETT'S INFO TECH INDUSTRY ALMANAC PRESENTS A COMPLETE ANALYSIS OF THE TECHNOLOGY BUSINESS, INCLUDING THE CONVERGENCE OF HARDWARE, SOFTWARE, ENTERTAINMENT AND TELECOMMUNICATIONS. THIS MARKET RESEARCH TOOL INCLUDES OUR ANALYSIS OF THE MAJOR TRENDS AFFECTING THE INDUSTRY, FROM THE SOARING NEED FOR MEMORY, TO SUPERCOMPUTING, OPEN SOURCE SYSTEMS SUCH AS LINUX, CLOUD COMPUTING AND THE ROLE OF NANOTECHNOLOGY IN COMPUTERS. IN ADDITION, WE PROVIDE MAJOR STATISTICAL TABLES COVERING THE INDUSTRY, FROM COMPUTER SECTOR REVENUES TO BROADBAND SUBSCRIBERS TO SEMICONDUCTOR INDUSTRY PRODUCTION. NO OTHER SOURCE PROVIDES THIS BOOK'S EASY-TO-UNDERSTAND COMPARISONS OF GROWTH, EXPENDITURES, TECHNOLOGIES, IMPORTS/EXPORTS, CORPORATIONS, RESEARCH AND OTHER VITAL SUBJECTS. THE CORPORATE PROFILE SECTION PROVIDES IN-DEPTH, ONE-PAGE PROFILES ON EACH OF THE TOP 500 INFO TECH COMPANIES. WE HAVE USED OUR MASSIVE DATABASES TO PROVIDE YOU WITH UNIQUE, OBJECTIVE ANALYSIS OF THE LARGEST AND MOST EXCITING COMPANIES IN: COMPUTER HARDWARE, COMPUTER SOFTWARE, INTERNET SERVICES, E-COMMERCE, NETWORKING, SEMICONDUCTORS, MEMORY, STORAGE, INFORMATION MANAGEMENT AND DATA PROCESSING. WE'VE BEEN WORKING HARDER THAN EVER TO GATHER DATA ON ALL THE LATEST TRENDS IN INFORMATION TECHNOLOGY. OUR RESEARCH EFFORT INCLUDES AN EXHAUSTIVE STUDY OF NEW TECHNOLOGIES AND DISCUSSIONS WITH EXPERTS AT DOZENS OF INNOVATIVE TECH COMPANIES. PURCHASERS OF THE PRINTED BOOK OR PDF VERSION MAY RECEIVE A FREE CD-ROM DATABASE OF THE CORPORATE PROFILES, ENABLING EXPORT OF VITAL CORPORATE DATA FOR MAIL MERGE AND OTHER USES.

ENERGY ISSUES AND TRANSITION TO A LOW CARBON ECONOMY FRANCISCO J. LOZANO 2021-08-10 WITHOUT ENERGY, THERE IS NO WELL-FUNCTIONING ECONOMY, BESIDES FACING SOCIAL RISKS. THIS BOOK PROVIDES A SYSTEMIC APPROACH TO ENERGY IN MEXICO AND ITS RELATIONS TO THE USA ARISING FROM THE ENERGY REFORM OF THE FORMER. IT COVERS THE TRANSITION FROM FOSSIL FUELS TO A LOW-CARBON ECONOMY, RELYING HEAVILY ON RENEWABLE SOURCES AND MITIGATING CLIMATE CHANGE RISKS. SEVERAL HUMAN KNOWLEDGE DISCIPLINES AND TOPICS ARE COVERED IN THE BOOK, INCLUDING PUBLIC POLICY, ECONOMICS, TRANSBOUNDARY ISSUES, ELECTRICITY AND THERMAL ENERGY, RESIDUAL BIOMASS USE, DISTRIBUTED ENERGY SYSTEMS AND ITS MANAGEMENT, AND DECISION-MAKING TOOLS. AN ANALYSIS IS CONSIDERED REGARDING ENERGY ISSUES INTERACTION IN THE MEXICAN-USA BORDER, WHICH DIFFER IN BOTH COUNTRIES FROM PRICING AND POLICY, AND THE WORK AND RESEARCH THAT HAS BEEN DEVELOPED FOR TRANSBOUNDARY ENERGY TRADE.

PROCEEDINGS OF THE 1ST INTERNATIONAL CONFERENCE ON SMART INNOVATION, ERGONOMICS AND APPLIED HUMAN FACTORS (SEAHF) C[?] SAR BENAVENTE-PECES 2019-06-20 THIS BOOK ADDRESSES A RANGE OF REAL-WORLD ISSUES INCLUDING INDUSTRIAL ACTIVITY, ENERGY MANAGEMENT, EDUCATION, BUSINESS AND HEALTH. TODAY, TECHNOLOGY IS A PART OF VIRTUALLY EVERY HUMAN ACTIVITY, AND IS USED TO SUPPORT, MONITOR AND MANAGE EQUIPMENT, FACILITIES, COMMODITIES, INDUSTRY, BUSINESS, AND INDIVIDUALS' HEALTH, AMONG OTHERS. AS TECHNOLOGY EVOLVES, NEW APPLICATIONS, METHODS AND TECHNIQUES ARISE, WHILE AT THE SAME TIME CITIZENS' EXPECTATIONS FROM TECHNOLOGY CONTINUE TO GROW. IN ORDER TO MEET THE NEARLY INSATIABLE DEMAND FOR NEW APPLICATIONS, BETTER PERFORMANCE AND HIGHER RELIABILITY, TRUSTWORTHINESS, SECURITY, AND POWER CONSUMPTION EFFICIENCY, ENGINEERS MUST DELIVER SMART INNOVATIONS, I.E., MUST DEVELOP THE BEST TECHNIQUES, TECHNOLOGIES AND SERVICES IN A WAY THAT RESPECTS HUMAN BEINGS AND THE ENVIRONMENT. WITH THAT GOAL IN MIND, THE KEY TOPICS ADDRESSED IN THIS BOOK ARE: SMART TECHNOLOGIES AND ARTIFICIAL INTELLIGENCE, GREEN ENERGY SYSTEMS, AEROSPACE ENGINEERING/ROBOTICS AND IT, INFORMATION SECURITY AND MOBILE ENGINEERING, IT IN BIO-MEDICAL ENGINEERING AND SMART AGRONOMY, SMART MARKETING, MANAGEMENT AND TOURISM POLICY, TECHNOLOGY AND EDUCATION, AND HYDROGEN AND FUEL-CELL ENERGY TECHNOLOGIES.

INNOVATIVE SOLUTIONS IN FLUID-PARTICLE SYSTEMS AND RENEWABLE ENERGY MANAGEMENT TANNOUS, KATIA 2015-07-01 THE THREAT OF NATURAL RESOURCE DEPLETION DUE TO HIGH ENERGY DEMANDS HAS BECOME A KEY CONCERN IN BOTH THE DEVELOPED AND DEVELOPING WORLDS. TO ALLEVIATE THESE CONCERNS, RESEARCHERS AROUND THE WORLD ARE EXPLORING SUSTAINABLE METHODS FOR GENERATING ENERGY. INNOVATIVE SOLUTIONS IN FLUID-PARTICLE SYSTEMS AND RENEWABLE ENERGY MANAGEMENT PRESENTS PHENOMENOLOGICAL, EXPERIMENTAL, AND THEORETICAL RESEARCH, AS WELL AS MARKET CRITERIA AND BUSINESS MODELS

CONCERNING THE DEVELOPMENT OF SMALL- AND LARGE-SCALE CHEMICAL AND ENERGY PLANTS. ASSOCIATING ACADEMIC AND INDUSTRIAL EXPERIENCES, THIS BOOK HIGHLIGHTS CURRENT TOPICS IN SUSTAINABLE ENERGY MANAGEMENT AND DEVELOPMENT WITH AN EMPHASIS ON OBTAINING LIQUID, GASEOUS, AND SOLID FUELS USING RESIDUES AND ENERGETIC BIOMASSES. ACADEMICIANS, RESEARCHERS, AND TECHNOLOGY DEVELOPERS WILL FIND THIS BOOK USEFUL IN FURTHERING THEIR OWN KNOWLEDGE AND RESEARCH IN THIS FIELD. A PIVOTAL PUBLICATION IN THE FIELD OF ENGINEERING, THIS TITLE COVERS A RANGE OF TOPICS INCLUDING, AMONG OTHERS, CELLULOSIC FEEDSTOCK, AGRICULTURAL BIOMASS, FLUID DYNAMICS, GASIFICATION PROCESSES, ENERGY EXTRACTION FROM RAW MATERIALS, AND ENVIRONMENTAL SUSTAINABILITY.

INTEGRATION OF CLEAN AND SUSTAINABLE ENERGY RESOURCES AND STORAGE IN MULTI-GENERATION SYSTEMS FARKHONDEH JABARI 2020-07-09 THIS BOOK PRESENTS DESIGN PRINCIPLES, PERFORMANCE ASSESSMENT AND ROBUST OPTIMIZATION OF DIFFERENT POLY-GENERATION SYSTEMS USING RENEWABLE ENERGY SOURCES AND STORAGE TECHNOLOGIES. UNCERTAINTIES ASSOCIATED WITH DEMANDS OR THE INTERMITTENT NATURE OF RENEWABLES ARE CONSIDERED IN DECISION MAKING PROCESSES. ECONOMIC AND ENVIRONMENTAL BENEFITS OF THESE SYSTEMS IN COMPARISON WITH TRADITIONAL FOSSIL FUELS BASED ONES ARE ALSO PROVIDED. CASE STUDIES, NUMERICAL RESULTS, DISCUSSIONS, AND CONCLUDING REMARKS HAVE BEEN PRESENTED FOR EACH PROPOSED SYSTEM/STRATEGY. THIS BOOK IS A USEFUL TOOL FOR STUDENTS, RESEARCHERS, AND ENGINEERS TRYING TO DESIGN AND EVALUATE DIFFERENT ZERO-ENERGY AND ZERO-EMISSION STAND-ALONE GRIDS.

SCALE-UP PROCESSES JAMAL CHAOUKI 2021-09-20 COMMON SCALE-UP METHODS ARE CONVENTIONAL WHERE THE BLIND PILOTING IS ESSENTIAL. THIS IMPOSES HUGE INVESTMENT AND LEADS TO FAILURES MOSTLY IN SOLID PROCESSING. HOWEVER, THE LIMITATIONS OF RESOURCES, CURRENT SHORTCOMINGS, SHORT TIME-TO-MARKET DEMAND ARE FORCED COMPANIES TO MINIMIZE PILOTING. WITH THESE SITUATIONS IN MIND, CURRENT DIGITALIZATION OUTLOOK AND COMPUTATIONAL FACILITIES, WE PROPOSED AND DEVELOPED A NOVEL ITERATIVE SCALE UP METHOD WITH CASE STUDIES WHICH HIGHLY EXPEDITES THE PROCESS INNOVATION THROUGH THE FOLLOWING KEY SEQUENCES:

PROCEEDINGS OF THE 8TH INTERNATIONAL CONFERENCE ON FOUNDATIONS OF COMPUTER-AIDED PROCESS DESIGN 2014-07-14 THIS VOLUME COLLECTS TOGETHER THE PRESENTATIONS AT THE EIGHTH INTERNATIONAL CONFERENCE ON FOUNDATIONS OF COMPUTER-AIDED PROCESS DESIGN, FOCAPD-2014, AN EVENT THAT BRINGS TOGETHER RESEARCHERS, EDUCATORS, AND PRACTITIONERS TO IDENTIFY NEW CHALLENGES AND OPPORTUNITIES FOR PROCESS AND PRODUCT DESIGN. THE CHEMICAL INDUSTRY IS CURRENTLY ENTERING A NEW PHASE OF RAPID EVOLUTION. THE AVAILABILITY OF LOW-COST FEEDSTOCKS FROM NATURAL GAS IS CAUSING RENEWED INVESTMENT IN BASIC CHEMICALS IN THE OECD, WHILE SOCIETAL PRESSURES FOR SUSTAINABILITY AND ENERGY SECURITY CONTINUE TO BE KEY DRIVERS IN TECHNOLOGY DEVELOPMENT AND PRODUCT SELECTION. THIS DYNAMIC ENVIRONMENT CREATES OPPORTUNITIES TO LAUNCH NEW PRODUCTS AND PROCESSES AND TO DEMONSTRATE NEW METHODOLOGIES FOR INNOVATION, SYNTHESIS AND DESIGN. FOCAPD-2014 FOSTERS CONSTRUCTIVE INTERACTION AMONG THOUGHT LEADERS FROM ACADEMIA, INDUSTRY, AND GOVERNMENT AND PROVIDES A SHOWCASE FOR THE LATEST RESEARCH IN PRODUCT AND PROCESS DESIGN. FOCAPD-2014 FOCUSES EXCLUSIVELY ON THE FUNDAMENTALS AND APPLICATIONS OF COMPUTER-AIDED DESIGN FOR THE PROCESS INDUSTRIES. PROVIDES A FULLY ARCHIVAL AND INDEXED RECORD OF THE FOCAPD 14 CONFERENCE ALIGNS THE FOCAPD SERIES WITH THE ESCAPE AND PSE SERIES

LEARN ASPEN PLUS IN 24 HOURS THOMAS A. ADAMS 2017-09-07 PUBLISHER'S NOTE: PRODUCTS PURCHASED FROM THIRD PARTY SELLERS ARE NOT GUARANTEED BY THE PUBLISHER FOR QUALITY, AUTHENTICITY, OR ACCESS TO ANY ONLINE ENTITLEMENTS INCLUDED WITH THE PRODUCT. THIS SELF-LEARNING GUIDE SHOWS HOW TO START USING ASPEN PLUS TO SOLVE CHEMICAL ENGINEERING PROBLEMS QUICKLY AND EASILY DISCOVER HOW TO SOLVE CHALLENGING CHEMICAL ENGINEERING PROBLEMS WITH ASPEN PLUS—IN JUST 24 HOURS, AND WITH NO PRIOR EXPERIENCE. DEVELOPED AT MCMASTER UNIVERSITY OVER A SEVEN-YEAR PERIOD, THE BOOK FEATURES VISUAL GUIDES TO USING DETAILED MATHEMATICAL MODELS FOR A WIDE RANGE OF CHEMICAL PROCESS EQUIPMENT, INCLUDING HEAT EXCHANGERS, PUMPS, COMPRESSORS, TURBINES, DISTILLATION COLUMNS, ABSORBERS, STRIPPERS, AND CHEMICAL REACTORS. LEARN ASPEN PLUS IN 24 HOURS SHOWS, STEP-BY-STEP, HOW TO CONFIGURE AND USE ASPEN PLUS v9.0 AND APPLY ITS POWERFUL FEATURES TO THE DESIGN, OPERATION, AND OPTIMIZATION OF SAFE, PROFITABLE MANUFACTURING FACILITIES. YOU WILL LEARN HOW TO BUILD PROCESS MODELS AND ACCURATELY SIMULATE THOSE MODELS WITHOUT PERFORMING TEDIOUS CALCULATIONS. DIVIDED INTO 12 TWO-HOUR LESSONS, THE GUIDE OFFERS DOWNLOADABLE ASPEN PLUS SIMULATION FILES AND VISUAL STEP-BY-STEP GUIDES. • CONTAINS A VALUABLE INDEX THAT LISTS SOFTWARE ICONS AND COMMANDS USED IN THE BOOK • FEATURES HELPFUL AND TIME-SAVING LINKS TO INSTRUCTIONAL VIDEOS AND TECHNICAL CONTENT • INSTRUCTS HOW TO INTEGRATE YOUR SIMULATION WITH OTHER SUPPORTING SOFTWARE SUCH AS ASPEN CAPITAL COST ESTIMATOR, ASPEN ENERGY ANALYZER, AND MICROSOFT EXCEL • WRITTEN BY AN ASPEN PLUS POWER-USER AND LEADING RESEARCHER IN CHEMICAL PROCESS SIMULATIONS

TECHNOLOGIES AND ECO-INNOVATION TOWARDS SUSTAINABILITY // ALLEN H. HU 2019-01-04 THIS 2-VOLUME BOOK COVERS THE STATE-OF-THE-ART OF THE RESEARCH AND PRACTICES ON ECO-DESIGN. IT COVERS THE LATEST TOPICS IN THE FIELD: E.G. GLOBAL ECO-DESIGN MANAGEMENT, BIG DATA IN ECO-DESIGN, SOCIAL PERSPECTIVES IN ECO-DESIGN; AS WELL AS EMPHASIZING THE DEVELOPMENTS IN EMERGING ECONOMIES SUCH AS ASIAN COUNTRIES. ECO-DESIGN OF PRODUCTS AND PRODUCT-RELATED SERVICES ARE INDISPENSABLE TO REALIZE THE CIRCULAR ECONOMY AND TO INCREASE RESOURCE EFFICIENCIES OF OUR SOCIETY. ECO-DESIGN PRACTICES ARE NECESSARY BOTH IN DEVELOPED COUNTRIES AND DEVELOPING COUNTRIES. THE BOOK CHAPTERS ARE CONTRIBUTED BY THE WORLDWIDE AUTHORS, ESPECIALLY AUTHORS FROM EAST ASIAN COUNTRIES, EUROPEAN COUNTRIES, AND SOUTHEAST ASIAN COUNTRIES, AND CONTAINS SELECTED PRESENTATIONS AT THE EcoDesign2017 SYMPOSIUM (10TH INTERNATIONAL SYMPOSIUM ON ENVIRONMENTALLY CONSCIOUS DESIGN AND INVERSE MANUFACTURING). THE SECOND VOLUME FOCUS ON ASSESSMENT AND MANAGEMENT, INCLUDING TOPICS SUCH AS SUSTAINABLE MANUFACTURING AND END OF LIFE (EOL) MANAGEMENT, SUSTAINABILITY ASSESSMENT, POLICY AND REGULATIONS AND INCENTIVES FOR ECO-DESIGN.

THE CHEMICAL ENGINEER 2007

CO₂ CAPTURE BY REACTIVE ABSORPTION-STRIPPING CLAUDIO MADEDDU 2018-12-15 THIS BOOK FOCUSES ON MODELLING ISSUES AND THEIR IMPLICATIONS FOR THE CORRECT DESIGN OF REACTIVE ABSORPTION-DESORPTION SYSTEMS. IN ADDITION, IT ADDRESSES THE CASE OF CARBON DIOXIDE (CO₂) POST-COMBUSTION CAPTURE IN DETAIL. THE BOOK PROPOSES A NEW PERSPECTIVE ON THESE SYSTEMS, AND PROVIDES TECHNOLOGICAL SOLUTIONS WITH COMPARISONS TO PREVIOUS TREATMENTS OF THE SUBJECT. THE MODEL THAT IS PROPOSED IS SUBSEQUENTLY VALIDATED USING EXPERIMENTAL DATA. IN ADDITION, THE BOOK FEATURES GRAPHS TO GUIDE READERS WITH IMMEDIATE VISUALIZATIONS OF THE BENEFITS OF THE METHODOLOGY PROPOSED. IT SHOWS A SYSTEMATIC PROCEDURE FOR THE STEADY-STATE MODEL-BASED DESIGN OF A CO₂ POST-COMBUSTION CAPTURE PLANT THAT EMPLOYS REACTIVE ABSORPTION-STRIPPING, USING MONOETHANOLAMINE AS THE SOLVENT. IT ALSO DISCUSSES THE MINIMIZATION OF ENERGY CONSUMPTION, BOTH THROUGH THE MODIFICATION OF THE PLANT FLOWSHEET AND THE SET-UP OF THE OPERATING PARAMETERS. THE BOOK OFFERS A UNIQUE SOURCE OF INFORMATION FOR RESEARCHERS AND PRACTITIONERS ALIKE, AS IT ALSO INCLUDES AN ECONOMIC ANALYSIS OF THE COMPLETE PLANT. FURTHER, IT WILL BE OF INTEREST TO ALL ACADEMICS AND STUDENTS WHOSE WORK INVOLVES REACTIVE ABSORPTION-STRIPPING DESIGN AND THE MODELLING OF REACTIVE ABSORPTION-STRIPPING SYSTEMS.

IMDC-IST 2021 ABD-ALHAMEED RAED 2022-01-26 THIS BOOK CONTAINS THE PROCEEDINGS OF THE SECOND INTERNATIONAL CONFERENCE ON INTEGRATED SCIENCES AND TECHNOLOGIES (IMDC-IST-2021). WHERE HELD ON 7TH-9TH SEP 2021 IN SAKARYA, TURKEY. THIS CONFERENCE WAS ORGANIZED BY UNIVERSITY OF BRADFORD, UK AND SOUTHERN TECHNICAL UNIVERSITY, IRAQ. THE PAPERS IN THIS CONFERENCE WERE COLLECTED IN A PROCEEDINGS BOOK ENTITLED: PROCEEDINGS OF THE SECOND EDITION OF THE INTERNATIONAL MULTI-DISCIPLINARY CONFERENCE THEME: "INTEGRATED SCIENCES AND TECHNOLOGIES" (IMDC-IST-2021). THE PRESENTATION OF SUCH A MULTI-DISCIPLINE CONFERENCE PROVIDES A LOT OF EXCITING INSIGHTS AND NEW UNDERSTANDING ON RECENT ISSUES IN TERMS OF GREEN ENERGY, DIGITAL HEALTH, BLENDED LEARNING, BIG DATA, META-MATERIAL, ARTIFICIAL-INTELLIGENCE POWERED APPLICATIONS, COGNITIVE COMMUNICATIONS, IMAGE PROCESSING, HEALTH TECHNOLOGIES, 5G COMMUNICATIONS. REFERRING TO THE ARGUMENT, THIS CONFERENCE WOULD SERVE AS A VALUABLE REFERENCE FOR FUTURE RELEVANT RESEARCH ACTIVITIES. THE COMMITTEE ACKNOWLEDGES THAT THE SUCCESS OF THIS CONFERENCE ARE CLOSELY INTERTWINED BY THE CONTRIBUTIONS FROM VARIOUS STAKEHOLDERS. AS BEING SUCH, WE WOULD LIKE TO EXPRESS OUR HEARTFELT APPRECIATION TO THE KEYNOTE SPEAKERS, INVITED SPEAKERS, PAPER PRESENTERS, AND PARTICIPANTS FOR THEIR ENTHUSIASTIC SUPPORT IN JOINING THE SECOND EDITION OF THE INTERNATIONAL MULTI-DISCIPLINARY CONFERENCE THEME: "INTEGRATED SCIENCES AND TECHNOLOGIES" (IMDC-IST-2021). WE ARE CONVINCED THAT THE CONTENTS OF THE STUDY FROM VARIOUS PAPERS ARE NOT ONLY ENCOURAGED PRODUCTIVE DISCUSSION AMONG PRESENTERS AND PARTICIPANTS BUT ALSO MOTIVATE FURTHER RESEARCH IN THE RELEVANT SUBJECT. WE APPRECIATE FOR YOUR ENTHUSIASM TO ATTEND OUR CONFERENCE AND SHARE YOUR KNOWLEDGE AND EXPERIENCE. YOUR INPUT WAS IMPORTANT IN ENSURING THE SUCCESS OF OUR CONFERENCE. FINALLY, WE HOPE THAT THIS CONFERENCE SERVES AS A FORUM FOR LEARNING IN BUILDING TOGETHERNESS AND ACADEMIC NETWORKS. THEREFORE, WE EXPECT TO SEE YOU ALL AT THE NEXT IMDC-IST.

CHEMICAL PROCESS DESIGN AND SIMULATION: ASPEN PLUS AND ASPEN HYSYS APPLICATIONS JUMA HAYDARY 2019-01-03 A COMPREHENSIVE AND EXAMPLE ORIENTED TEXT FOR THE STUDY OF CHEMICAL PROCESS DESIGN AND SIMULATION CHEMICAL PROCESS DESIGN AND SIMULATION IS AN ACCESSIBLE GUIDE THAT OFFERS INFORMATION ON THE MOST IMPORTANT PRINCIPLES OF CHEMICAL ENGINEERING DESIGN AND INCLUDES ILLUSTRATIVE EXAMPLES OF THEIR APPLICATION THAT USES SIMULATION SOFTWARE. A COMPREHENSIVE AND PRACTICAL RESOURCE, THE TEXT USES BOTH ASPEN PLUS AND ASPEN HYSYS SIMULATION SOFTWARE. THE AUTHOR DESCRIBES THE BASIC METHODOLOGIES FOR COMPUTER AIDED DESIGN AND OFFERS A DESCRIPTION OF THE BASIC STEPS OF PROCESS SIMULATION IN ASPEN PLUS AND ASPEN HYSYS. THE TEXT REVIEWS THE DESIGN AND SIMULATION OF INDIVIDUAL SIMPLE

UNIT OPERATIONS THAT INCLUDES A MATHEMATICAL MODEL OF EACH UNIT OPERATION SUCH AS REACTORS, SEPARATORS, AND HEAT EXCHANGERS. THE AUTHOR ALSO EXPLORES THE DESIGN OF NEW PLANTS AND SIMULATION OF EXISTING PLANTS WHERE CONVENTIONAL CHEMICALS AND MATERIAL MIXTURES WITH MEASURABLE COMPOSITIONS ARE USED. IN ADDITION, TO AID IN COMPREHENSION, SOLUTIONS TO EXAMPLES OF REAL PROBLEMS ARE INCLUDED. THE FINAL SECTION COVERS PLANT DESIGN AND SIMULATION OF PROCESSES USING NONCONVENTIONAL COMPONENTS. THIS IMPORTANT RESOURCE: INCLUDES INFORMATION ON THE APPLICATION OF BOTH THE ASPEN PLUS AND ASPEN HYSYS SOFTWARE THAT ENABLES A COMPARISON OF THE TWO SOFTWARE SYSTEMS COMBINES THE BASIC THEORETICAL PRINCIPLES OF CHEMICAL PROCESS AND DESIGN WITH REAL-WORLD EXAMPLES COVERS BOTH PROCESSES WITH CONVENTIONAL ORGANIC CHEMICALS AND PROCESSES WITH MORE COMPLEX MATERIALS SUCH AS SOLIDS, OIL BLENDS, POLYMERS AND ELECTROLYTES PRESENTS EXAMPLES THAT ARE SOLVED USING A NEW VERSION OF ASPEN SOFTWARE, ASPEN ONE 9 WRITTEN FOR STUDENTS AND ACADEMICS IN THE FIELD OF PROCESS DESIGN, CHEMICAL PROCESS DESIGN AND SIMULATION IS A PRACTICAL AND ACCESSIBLE GUIDE TO THE CHEMICAL PROCESS DESIGN AND SIMULATION USING PROVEN SOFTWARE.

SOLID-LIQUID SEPARATION TECHNOLOGIES OLAYINKA I. OGUNSOLA 2022-04-18 THIS BOOK PRESENTS RECENT RESEARCH AND ADVANCES IN VARIOUS SOLID-LIQUID SEPARATION TECHNOLOGIES AND SOME APPLICATIONS FOR TREATING PRODUCED WATER. IT COVERS FUNDAMENTAL PRINCIPLES AND THE IMPORTANCE OF PRODUCED WATER IN MAJOR INDUSTRIAL SECTORS AND COMPARES SOLID-LIQUID SEPARATION TECHNOLOGIES. IN ADDITION, THIS BOOK PRESENTS THE RESULTS OF RESEARCH STUDIES CONDUCTED TO EVALUATE THE PERFORMANCE OF SOLID-LIQUID SEPARATION TECHNOLOGIES DISCUSSES A WIDE RANGE OF TECHNOLOGIES, INCLUDING MEMBRANE, FILTRATION, CRYSTALLIZATION, DESALINATION, SUPERCRITICAL FLUIDS, COAGULATION, AND FLOATATION INCLUDES EXPERIMENTAL, THEORETICAL, MODELING, AND PROCESS DESIGN STUDIES WITH ITS COMPREHENSIVE COVERAGE, THIS BOOK IS AN ESSENTIAL REFERENCE FOR CHEMICAL RESEARCHERS, SCIENTISTS, AND ENGINEERS IN INDUSTRY, ACADEMIA, AND PROFESSIONAL LABORATORIES. IT IS ALSO AN IMPORTANT RESOURCE FOR GRADUATE AND ADVANCED UNDERGRADUATE STUDENTS STUDYING SOLID-LIQUID SEPARATIONS.

INNOVATIVE FOOD PROCESSING TECHNOLOGIES 2020-08-18 FOOD PROCESS ENGINEERING, A BRANCH OF BOTH FOOD SCIENCE AND CHEMICAL ENGINEERING, HAS EVOLVED OVER THE YEARS SINCE ITS INCEPTION AND STILL IS A RAPIDLY CHANGING DISCIPLINE. WHILE TRADITIONALLY THE MAIN OBJECTIVE OF FOOD PROCESS ENGINEERING WAS PRESERVATION AND STABILIZATION, THE FOCUS TODAY HAS SHIFTED TO ENHANCE HEALTH ASPECTS, FLAVOUR AND TASTE, NUTRITION, SUSTAINABLE PRODUCTION, FOOD SECURITY AND ALSO TO ENSURE MORE DIVERSITY FOR THE INCREASING DEMAND OF CONSUMERS. THE FOOD INDUSTRY IS BECOMING INCREASINGLY COMPETITIVE AND DYNAMIC, AND STRIVES TO DEVELOP HIGH QUALITY, FRESHLY PREPARED FOOD PRODUCTS. TO ACHIEVE THIS OBJECTIVE, FOOD MANUFACTURERS ARE TODAY PRESENTED WITH A GROWING ARRAY OF NEW TECHNOLOGIES THAT HAVE THE POTENTIAL TO IMPROVE, OR REPLACE, CONVENTIONAL PROCESSING TECHNOLOGIES, TO DELIVER HIGHER QUALITY AND BETTER CONSUMER TARGETED FOOD PRODUCTS, WHICH MEET MANY, IF NOT ALL, OF THE DEMANDS OF THE MODERN CONSUMER. THESE NEW, OR INNOVATIVE, TECHNOLOGIES ARE IN VARIOUS STAGES OF DEVELOPMENT, INCLUDING SOME STILL AT THE R&D STAGE, AND OTHERS THAT HAVE BEEN COMMERCIALISED AS ALTERNATIVES TO CONVENTIONAL PROCESSING TECHNOLOGIES. FOOD PROCESS ENGINEERING COMPRISES A SERIES OF UNIT OPERATIONS TRADITIONALLY APPLIED IN THE FOOD INDUSTRY. ONE MAJOR COMPONENT OF THESE OPERATIONS RELATES TO THE APPLICATION OF HEAT, DIRECTLY OR INDIRECTLY, TO PROVIDE FOODS FREE FROM PATHOGENIC MICROORGANISMS, BUT ALSO TO ENHANCE OR INTENSIFY OTHER PROCESSES, SUCH AS EXTRACTION, SEPARATION OR MODIFICATION OF COMPONENTS. THE LAST THREE DECADES HAVE ALSO WITNESSED THE ADVENT AND ADAPTATION OF SEVERAL OPERATIONS, PROCESSES, AND TECHNIQUES AIMED AT PRODUCING HIGH QUALITY FOODS, WITH MINIMUM ALTERATION OF SENSORY AND NUTRITIVE PROPERTIES. SOME OF THESE INNOVATIVE TECHNOLOGIES HAVE SIGNIFICANTLY REDUCED THE THERMAL COMPONENT IN FOOD PROCESSING, OFFERING ALTERNATIVE NONTHERMAL METHODS. **FOOD PROCESSING TECHNOLOGIES: A COMPREHENSIVE REVIEW** COVERS THE LATEST ADVANCES IN INNOVATIVE AND NONTHERMAL PROCESSING, SUCH AS HIGH PRESSURE, PULSED ELECTRIC FIELDS, RADIOFREQUENCY, HIGH INTENSITY PULSED LIGHT, ULTRASOUND, IRRADIATION AND NEW HURDLE TECHNOLOGY. EACH SECTION WILL HAVE AN INTRODUCTORY ARTICLE COVERING THE BASIC PRINCIPLES AND APPLICATIONS OF EACH TECHNOLOGY, AND IN-DEPTH ARTICLES COVERING THE CURRENTLY AVAILABLE EQUIPMENT (AND/OR THE CURRENT STATE OF DEVELOPMENT), FOOD QUALITY AND SAFETY, APPLICATION TO VARIOUS SECTORS, FOOD LAWS AND REGULATIONS, CONSUMER ACCEPTANCE, ADVANCEMENTS AND FUTURE SCOPE. IT WILL ALSO CONTAIN CASE STUDIES AND EXAMPLES TO ILLUSTRATE STATE-OF-THE-ART APPLICATIONS. EACH SECTION WILL SERVE AS AN EXCELLENT REFERENCE TO FOOD INDUSTRY PROFESSIONALS INVOLVED IN THE PROCESSING OF A WIDE RANGE OF FOOD CATEGORIES, E.G., MEAT, SEAFOOD, BEVERAGE, DAIRY, EGGS, FRUITS AND VEGETABLE PRODUCTS, SPICES, HERBS AMONG OTHERS.

INNOVATIVE BIOSYSTEMS ENGINEERING FOR SUSTAINABLE AGRICULTURE, FORESTRY AND FOOD PRODUCTION ANTONIO COPPOLA 2020-03-19 THIS BOOK GATHERS THE LATEST ADVANCES, INNOVATIONS, AND APPLICATIONS IN THE FIELD OF INNOVATIVE BIOSYSTEMS ENGINEERING FOR SUSTAINABLE AGRICULTURE, FORESTRY AND FOOD PRODUCTION. FOCUSING ON THE CHALLENGES OF IMPLEMENTING SUSTAINABILITY IN VARIOUS CONTEXTS IN THE FIELDS OF BIOSYSTEMS ENGINEERING, IT SHOWS HOW THE RESEARCH

HAS ADDRESSED THE SUSTAINABLE USE OF RENEWABLE AND NON-RENEWABLE RESOURCES. IT ALSO PRESENTS POSSIBLE SOLUTIONS TO HELP ACHIEVE SUSTAINABLE PRODUCTION. THE MID-TERM CONFERENCE OF THE ITALIAN ASSOCIATION OF AGRICULTURAL ENGINEERING (AIIA) IS PART OF A SERIES OF CONFERENCES, SEMINARS AND MEETINGS THAT THE AIIA ORGANIZES, TOGETHER WITH OTHER PUBLIC AND PRIVATE STAKEHOLDERS, TO PROMOTE THE CREATION AND DISSEMINATION OF NEW KNOWLEDGE IN THE SECTOR. THE CONTRIBUTIONS INCLUDED IN THE BOOK WERE SELECTED BY MEANS OF A RIGOROUS PEER-REVIEW PROCESS, AND OFFER AN EXTENSIVE AND MULTIDISCIPLINARY OVERVIEW OF INTERESTING SOLUTIONS IN THE FIELD OF INNOVATIVE BIOSYSTEMS ENGINEERING FOR SUSTAINABLE AGRICULTURE.

PROCESS OPERATIONAL SAFETY AND CYBERSECURITY ZHE WU 2021-06-09 THIS BOOK IS FOCUSED ON THE DEVELOPMENT OF RIGOROUS, YET PRACTICAL, METHODS FOR THE DESIGN OF ADVANCED PROCESS CONTROL SYSTEMS TO IMPROVE PROCESS OPERATIONAL SAFETY AND CYBERSECURITY FOR A WIDE RANGE OF NONLINEAR PROCESS SYSTEMS. PROCESS OPERATIONAL SAFETY AND CYBERSECURITY DEVELOPS DESIGNS FOR NOVEL MODEL PREDICTIVE CONTROL SYSTEMS ACCOUNTING FOR OPERATIONAL SAFETY CONSIDERATIONS, PRESENTS THEORETICAL ANALYSIS ON RECURSIVE FEASIBILITY AND SIMULTANEOUS CLOSED-LOOP STABILITY AND SAFETY, AND DISCUSSES PRACTICAL CONSIDERATIONS INCLUDING DATA-DRIVEN MODELING OF NONLINEAR PROCESSES, CHARACTERIZATION OF CLOSED-LOOP STABILITY REGIONS AND COMPUTATIONAL EFFICIENCY. THE TEXT THEN SHIFTS FOCUS TO THE DESIGN OF INTEGRATED DETECTION AND MODEL PREDICTIVE CONTROL SYSTEMS WHICH IMPROVE PROCESS CYBERSECURITY BY EFFICIENTLY DETECTING AND MITIGATING THE IMPACT OF INTELLIGENT CYBER-ATTACKS. THE BOOK EXPLORES SEVERAL KEY AREAS RELATING TO OPERATIONAL SAFETY AND CYBERSECURITY INCLUDING: MACHINE-LEARNING-BASED MODELING OF NONLINEAR DYNAMICAL SYSTEMS FOR MODEL PREDICTIVE CONTROL; A FRAMEWORK FOR DETECTION AND RESILIENT CONTROL OF SENSOR CYBER-ATTACKS FOR NONLINEAR SYSTEMS; INSIGHT INTO THEORETICAL AND PRACTICAL ISSUES ASSOCIATED WITH THE DESIGN OF CONTROL SYSTEMS FOR PROCESS OPERATIONAL SAFETY AND CYBERSECURITY; AND A NUMBER OF NUMERICAL SIMULATIONS OF CHEMICAL PROCESS EXAMPLES AND ASPEN SIMULATIONS OF LARGE-SCALE CHEMICAL PROCESS NETWORKS OF INDUSTRIAL RELEVANCE. A BASIC KNOWLEDGE OF NONLINEAR SYSTEM ANALYSIS, LYAPUNOV STABILITY TECHNIQUES, DYNAMIC OPTIMIZATION, AND MACHINE-LEARNING TECHNIQUES WILL HELP READERS TO UNDERSTAND THE METHODOLOGIES PROPOSED. THE BOOK IS A VALUABLE RESOURCE FOR ACADEMIC RESEARCHERS AND GRADUATE STUDENTS PURSUING RESEARCH IN THIS AREA AS WELL AS FOR PROCESS CONTROL ENGINEERS. ADVANCES IN INDUSTRIAL CONTROL REPORTS AND ENCOURAGES THE TRANSFER OF TECHNOLOGY IN CONTROL ENGINEERING. THE RAPID DEVELOPMENT OF CONTROL TECHNOLOGY HAS AN IMPACT ON ALL AREAS OF THE CONTROL DISCIPLINE. THE SERIES OFFERS AN OPPORTUNITY FOR RESEARCHERS TO PRESENT AN EXTENDED EXPOSITION OF NEW WORK IN ALL ASPECTS OF INDUSTRIAL CONTROL.

WP3 – INNOVATION IN AGRICULTURE AND FORESTRY SECTOR FOR ENERGETIC SUSTAINABILITY ANDREA COLANTONI 2021-04-15 THE PAPERS PUBLISHED IN THIS SPECIAL ISSUE “WP3—INNOVATION IN AGRICULTURE AND FORESTRY SECTOR FOR ENERGETIC SUSTAINABILITY” BRING TOGETHER SOME OF THE LATEST RESEARCH RESULTS IN THE FIELD OF BIOMASS VALORIZATION AND THE PROCESS OF ENERGY PRODUCTION AND CLIMATE CHANGE AND OTHER AREAS RELEVANT TO ENERGETIC SUSTAINABILITY [1–20]. MOREOVER, SEVERAL WORKS ADDRESS THE VERY IMPORTANT TOPIC OF EVALUATING THE SAFETY ASPECTS FOR ENERGY PLANT USE [21–24]. RESPONSES TO OUR CALL GENERATED THE FOLLOWING STATISTICS:• SUBMISSIONS (21);• PUBLICATIONS (15);• REJECTIONS (6);• ARTICLE TYPES: RESEARCH ARTICLES (13), REVIEWS (2). OF THE SUBMITTED PAPERS, 15 HAVE BEEN SUCCESSFULLY PUBLISHED AS ARTICLES. REVIEWING AND SELECTING THE PAPERS FOR THIS SPECIAL ISSUE WAS VERY INSPIRING AND REWARDING. WE ALSO THANK THE EDITORIAL STAFF AND REVIEWERS FOR THEIR EFFORTS AND HELP DURING THE PROCESS. FOR BETTER COMPREHENSION, THE CONTRIBUTIONS TO THIS SPECIAL ISSUE ARE DIVIDED INTO SECTIONS, AS FOLLOWS.

PRODUCT AND PROCESS DESIGN JAN HARMSSEN 2018-05-22 PRODUCT AND PROCESS DESIGN: DRIVING INNOVATION IS A COMPREHENSIVE TEXTBOOK FOR STUDENTS AND INDUSTRIAL PROFESSIONALS. IT TREATS THE COMBINED DESIGN OF INNOVATIVE PRODUCTS AND THEIR INNOVATIVE MANUFACTURING PROCESSES, PROVIDING SPECIFIC METHODS FOR BSc, MSc, PDEng AND PhD COURSES. STUDENTS, INDUSTRIAL INNOVATORS AND MANAGERS ARE GUIDED THROUGH ALL DESIGN STEPS IN ALL INNOVATION STAGES (DISCOVERY, CONCEPT, FEASIBILITY, DEVELOPMENT, DETAILED ENGINEERING, AND IMPLEMENTATION) TO SUCCESSFULLY OBTAIN NOVEL PRODUCTS AND THEIR NOVEL PROCESSES. THE AUTHORS’ DECADES OF INNOVATION EXPERIENCE IN INDUSTRY, AS WELL AS IN TEACHING BSc, MSc, AND POST-ACADEMIC PRODUCT AND PROCESS DESIGN COURSES, THEREBY INCLUDING THE LATEST DESIGN PUBLICATIONS, CULMINATE IN THIS BOOK.

ADVANCES IN CLEAN HYDROCARBON FUEL PROCESSING M. RASHID KHAN 2011-09-23 CONVENTIONAL COAL, OIL AND GAS RESOURCES USED WORLDWIDE FOR POWER PRODUCTION AND TRANSPORTATION ARE LIMITED AND UNSUSTAINABLE. RESEARCH AND DEVELOPMENT INTO CLEAN, ALTERNATIVE HYDROCARBON FUELS IS THEREFORE AIMED AT IMPROVING FUEL SECURITY THROUGH EXPLORING NEW FEEDSTOCK CONVERSION TECHNIQUES, IMPROVING PRODUCTION EFFICIENCY AND REDUCING ENVIRONMENTAL IMPACTS. ADVANCES IN CLEAN HYDROCARBON FUEL PROCESSING PROVIDES A COMPREHENSIVE AND SYSTEMATIC REFERENCE ON THE RANGE OF ALTERNATIVE CONVERSION PROCESSES AND TECHNOLOGIES. FOLLOWING INTRODUCTORY OVERVIEWS OF THE FEEDSTOCKS,

ENVIRONMENTAL ISSUES AND LIFE CYCLE ASSESSMENT FOR ALTERNATIVE HYDROCARBON FUEL PROCESSING, SECTIONS GO ON TO REVIEW SOLID, LIQUID AND GASEOUS FUEL CONVERSION. SOLID FUEL COVERAGE INCLUDES REVIEWS OF LIQUEFACTION, GASIFICATION, PYROLYSIS AND BIOMASS CATALYSIS. LIQUID FUEL COVERAGE INCLUDES REVIEWS OF SULFUR REMOVAL, PARTIAL OXIDATION AND HYDROCONVERSION. GASEOUS FUEL COVERAGE INCLUDES REVIEWS OF FISCHER-TROPSCH SYNTHESIS, METHANOL AND DIMETHYL ETHER PRODUCTION, WATER-GAS SHIFT TECHNOLOGY AND NATURAL GAS HYDRATE CONVERSION. THE FINAL SECTION EXAMINES ENVIRONMENTAL DEGRADATION ISSUES IN FUEL PROCESSING PLANTS AS WELL AS AUTOMATION, ADVANCED PROCESS CONTROL AND PROCESS MODELLING TECHNIQUES FOR PLANT OPTIMISATION WRITTEN BY AN INTERNATIONAL TEAM OF EXPERT CONTRIBUTORS, ADVANCES IN CLEAN HYDROCARBON FUEL PROCESSING PROVIDES A VALUABLE REFERENCE FOR FUEL PROCESSING ENGINEERS, INDUSTRIAL PETROCHEMISTS AND ENERGY PROFESSIONALS, AS WELL AS FOR RESEARCHERS AND ACADEMICS IN THIS FIELD. A COMPREHENSIVE REFERENCE ON THE RANGE OF ALTERNATIVE CONVERSION PROCESSES AND TECHNOLOGIES PROVIDES AN OVERVIEW OF THE FEEDSTOCKS, ENVIRONMENTAL ISSUES AND LIFE CYCLE ASSESSMENTS FOR ALTERNATIVE HYDROCARBON FUEL PROCESSING, INCLUDING A REVIEW OF THE KEY ISSUES IN SOLID, LIQUID AND GASEOUS FUEL CONVERSION EXAMINES AUTOMATION, ADVANCED PROCESS CONTROL AND PROCESS MODELLING TECHNIQUES FOR PLANT OPTIMISATION

MODELING AND SIMULATION OF ENERGY SYSTEMS THOMAS A. ADAMS II 2019-11-06 ENERGY SYSTEMS ENGINEERING IS ONE OF THE MOST EXCITING AND FASTEST GROWING FIELDS IN ENGINEERING. MODELING AND SIMULATION PLAYS A KEY ROLE IN ENERGY SYSTEMS ENGINEERING BECAUSE IT IS THE PRIMARY BASIS ON WHICH ENERGY SYSTEM DESIGN, CONTROL, OPTIMIZATION, AND ANALYSIS ARE BASED. THIS BOOK CONTAINS A SPECIALLY CURATED COLLECTION OF RECENT RESEARCH ARTICLES ON THE MODELING AND SIMULATION OF ENERGY SYSTEMS WRITTEN BY TOP EXPERTS AROUND THE WORLD FROM UNIVERSITIES AND RESEARCH LABS, SUCH AS MASSACHUSETTS INSTITUTE OF TECHNOLOGY, YALE UNIVERSITY, NORWEGIAN UNIVERSITY OF SCIENCE AND TECHNOLOGY, NATIONAL ENERGY TECHNOLOGY LABORATORY OF THE US DEPARTMENT OF ENERGY, UNIVERSITY OF TECHNOLOGY SYDNEY, MCMASTER UNIVERSITY, QUEENS UNIVERSITY, PURDUE UNIVERSITY, THE UNIVERSITY OF CONNECTICUT, TECHNICAL UNIVERSITY OF DENMARK, THE UNIVERSITY OF TORONTO, TECHNISCHE UNIVERSITÄT BERLIN, TEXAS A&M, THE UNIVERSITY OF PENNSYLVANIA, AND MANY MORE. THE KEY RESEARCH THEMES COVERED INCLUDE ENERGY SYSTEMS DESIGN, CONTROL SYSTEMS, FLEXIBLE OPERATIONS, OPERATIONAL STRATEGIES, AND SYSTEMS ANALYSIS. THE ADDRESSED AREAS OF APPLICATION INCLUDE ELECTRIC POWER GENERATION, REFRIGERATION CYCLES, NATURAL GAS LIQUEFACTION, SHALE GAS TREATMENT, CONCENTRATED SOLAR POWER, WASTE-TO-ENERGY SYSTEMS, MICRO-GAS TURBINES, CARBON DIOXIDE CAPTURE SYSTEMS, ENERGY STORAGE, PETROLEUM REFINERY UNIT OPERATIONS, BRAYTON CYCLES, TO NAME BUT A FEW.

BIOETHANOL PRODUCTION FROM FOOD CROPS RAMESH C. RAY 2018-08-20 BIOETHANOL PRODUCTION FROM FOOD CROPS: SUSTAINABLE SOURCES, INTERVENTIONS AND CHALLENGES COMPREHENSIVELY COVERS THE GLOBAL SCENARIO OF ETHANOL PRODUCTION FROM BOTH FOOD AND NON-FOOD CROPS AND OTHER SOURCES. THE BOOK GUIDES READERS THROUGH THE BALANCING OF THE DEBATE ON FOOD VS. FUEL, GIVING IMPORTANT INSIGHTS INTO RESOURCE MANAGEMENT AND THE ENVIRONMENTAL AND ECONOMIC IMPACT OF THIS BALANCE BETWEEN DEMANDS. SECTIONS COVER GLOBAL BIOETHANOL FROM FOOD CROPS AND FOREST RESOURCE, BIOETHANOL FROM BAGASSE AND LIGNOCELLULOSIC WASTES, BIOETHANOL FROM ALGAE, AND ECONOMICS AND CHALLENGES, PRESENTING A MULTIDISCIPLINARY APPROACH TO THIS COMPLEX TOPIC. AS BIOFUELS CONTINUE TO GROW AS A VITAL ALTERNATIVE ENERGY SOURCE, IT IS IMPERATIVE THAT THE PROPER BALANCE IS REACHED BETWEEN RESOURCE PROTECTION AND HUMAN SURVIVAL. THIS BOOK PROVIDES IMPORTANT INSIGHTS INTO ACHIEVING THAT BALANCE. PRESENTS TECHNOLOGICAL INTERVENTIONS IN ETHANOL PRODUCTION, FROM PLANT BIOMASS, TO FOOD CROPS ADDRESSES FOOD SECURITY ISSUES ARISING FROM BIOETHANOL PRODUCTION IDENTIFIES DEVELOPMENT BOTTLENECKS AND AREAS WHERE COLLABORATIVE EFFORTS CAN HELP DEVELOP MORE COST-EFFECTIVE TECHNOLOGY

CURRENT DEVELOPMENTS IN BIOTECHNOLOGY AND BIOENGINEERING SUNIL KUMAR 2019-01-03 CURRENT DEVELOPMENTS IN BIOTECHNOLOGY AND BIOENGINEERING: WASTE TREATMENT PROCESSES FOR ENERGY GENERATION PROVIDES EXTENSIVE RESEARCH ON THE ROLE OF WASTE MANAGEMENT PROCESSES/TECHNOLOGIES FOR ENERGY GENERATION. THE ENORMOUS INCREASE OF WASTE MATERIALS GENERATED BY HUMAN ACTIVITY AND ITS POTENTIALLY HARMFUL EFFECTS ON THE ENVIRONMENT AND PUBLIC HEALTH HAVE LED TO AN INCREASING AWARENESS OF AN URGENT NEED TO ADOPT SCIENTIFIC METHODS FOR THE SAFE DISPOSAL OF WASTES. THIS BOOK OUTLINES THE BASIC KNOWLEDGE, PROCESSES AND TECHNOLOGIES FOR THE GENERATION OF ENERGY FROM WASTE AND FUNCTIONS AS AN IMPORTANT REFERENCE FOR ACADEMICS AND PRACTITIONERS AT VARYING LEVELS OF INTEREST AND KNOWLEDGE. THE BOOK'S CONTENT ENCOMPASSES ALL ISSUES FOR ENERGY RECOVERY FROM WASTE IN A VERY CLEAR AND SIMPLE MANNER, ACTING AS A COMPREHENSIVE RESOURCE FOR ANYONE SEEKING AN UNDERSTANDING ON THE TOPIC. OUTLINES THE LATEST TECHNOLOGIES USED FOR WASTE CONVERSION INTO ENERGY AND FACILITATES PROJECT EVALUATION BASED ON THESE TECHNOLOGIES SUMMARIZES THE PROS AND CONS OF VARIOUS PROCESSES INCLUDES CASE STUDIES AND ECONOMIC ANALYSIS

INNOVATIVE ENERGY CONVERSION FROM BIOMASS WASTE ARIF DARMAWAN 2021-08-21 INNOVATIVE ENERGY CONVERSION

FROM BIOMASS WASTE OFFERS A NEW APPROACH TO OPTIMIZING ENERGY RECOVERY FROM WASTE USING THERMOCHEMICAL CONVERSION. INSTEAD OF CONVENTIONAL PINCH TECHNOLOGY, THE BOOK PROPOSES INTEGRATED SYSTEMS EMPLOYING EXERGY RECOVERY AND PROCESS INTEGRATION TECHNOLOGIES TO MINIMIZE EXERGY LOSS DUE TO ENTROPY GENERATION. THIS INNOVATIVE APPROACH IS DEMONSTRATED IN THREE CASE STUDIES USING HIGH-POTENTIAL LOW-RANK FUELS FROM INDUSTRIAL WASTE PRODUCTS WITH HIGH MOISTURE CONTENT, HIGH VOLATILE MATTER, AND HIGH HEMICELLULOSE CONTENT. FROM THESE CASE STUDIES, READERS ARE PROVIDED WITH THREE DIFFERENT EXAMPLES OF BIOMASS TYPE, PRE-TREATMENT ROUTE, AND CONVERSION, FROM FRUIT BUNCH COFIRED WITHIN EXISTING COAL POWER PLANTS, BLACK LIQUOR IN A STAND-ALONE SYSTEM, AND RICE WASTE PROCESSING INTEGRATED INTO EXISTING AGRICULTURAL SYSTEMS. INNOVATIVE ENERGY CONVERSION FROM BIOMASS WASTE IS A VALUABLE RESOURCE FOR RESEARCHERS AND PRACTITIONERS ALIKE, AND WILL BE OF INTEREST TO ENVIRONMENTAL SCIENTISTS, BIOTECHNOLOGISTS, AND CHEMICAL ENGINEERS WORKING IN WASTE-TO-ENERGY AND RENEWABLE ENERGY. PROVIDES A NEW APPROACH TO DEVELOPING SYSTEMS BASED ON EXERGY RECOVERY AND PROCESS INTEGRATION TECHNOLOGIES DISCUSSES THE POSSIBLE ROUTES OF ENERGY RECOVERY IN DIFFERENT SCENARIOS FROM SELECTED LOW-RANK FUELS FROM INDUSTRIAL WASTE BIOMASS INCLUDES A REPLICABLE AND APPLICABLE EFFICIENCY IMPROVEMENT METHOD FOR DIFFERENT PROCESS DEVELOPMENTS