

AIChE



11•3 — 11•8
Indianapolis, IN

금년도 AIChE(미국화학공학회) Annual Meeting 은 Indianapolis 에 있는 Indiana Convention Center 에서 11 월 3 일부터 8 일까지 개최됩니다. (<http://www.aidhe.org/conferences/annual/>) 언제나 그랬듯이 Annual meeting 은 National meeting 에 비해 규모나 참가자수, 참가논문의 질적 수준이 상당히 높습니다. AIChE 의 참석을 통해 국내 연구수준을 가능해 보고 관련 연구의 이정표를 재점검해 볼 수 있는 좋은 기회여서 본인은 11 월 3 일부터 8 일까지 AIChE Annual Meeting 에 참가하여 [Food, Pharmaceutical & Bioengineering Division](#) 과 [Bioinformatics Topical](#) 의 발표들을 중심으로 CHERIC 에 보고하고자 합니다. 금년도 annual meeting 의 각 group 은 아래 표와 같습니다. 그런데 group 종류가 워낙 많아서 시간 내에 모든 session 을 둘러본다는 것은 애시당초 어려운 일임을 쉽게 짐작하실 수 있겠죠? 이들 중 Biochemical Engineering 을 다루는 Food, Pharmaceutical & Bioengineering Division vision 에는 68 개의 session 과 17 개의 co-sponsored session 으로 이루어져 있습니다. 미국이라는 나라가 워낙 크다보니 세분화된 연구분야에서 엄청나게 많은 연구들이 이루어지고 있음을 미루어 짐작할 수 있습니다. Biochemical Engineering 분야 정규 session 에서만 580 여편의 논문이 구두발표로 이루어지니 그 규모를 가늠할 수 있을 것입니다. 특히 두드러지는 현상은 Functional Genomics 분야와 Proteomics 분야 그리고 Metabolic Engineering 분야의 연구발표가 전해에 비해 상당히 활발해지는 경향인데, 과연 이 분야에서 Biochemical Engineer 들이 향후 어떠한 자리매김을 하고 어떤 역할을 할 것인지를 알아보려고 합니다. 이번 학회를 통해 전반적인 Biochemical Engineering 연구의

Technical Program by Group

Group	Title
01	Engineering Sciences and Fundamentals
02	Separations Division
03	Particle Technology Forum
04	Education
05	Management Division
06	North American Mixing Forum
07	Heat Transfer & Energy Conversion Division
08	Materials Engineering and Sciences Division
09	Environmental Division
10	Computing and Systems Technology Division
11	Safety and Health Division
12	Process Development
15	Food, Pharmaceutical & Bioengineering Division
16	Fuels and Petrochemicals Division
17	Forest Products Division
18	Liaison Functions
20	Catalysis and Reaction Engineering Division
21	Computational Molecular Science and Engineering Forum
T1	Nanoscale Science and Engineering
T2	Sustainable Engineering Topical
T3	Bioinformatics Topical
T4	Envisioning Biorefineries - Chemicals and Materials from Renewable Feedstocks
T5	Sensors Topical
T6	Annual Meeting of The Electrophoresis Society

동향을 파악하고 아래 표의 session 들 중 빨간색으로 표시한 session 에 대해 집중적인 점검과 동향파악에 착수할 예정입니다.

관심분야인 Food, Pharmaceutical & Bioengineering 분야의 session 은 다음표와 같습니다.

Group 15 - Food, Pharmaceutical & Bioengineering Division

Code	Book Number - Sessions offered by this group
15001	289 - Poster Session: Food, Pharmaceutical & Bioengineering
15002	288 - Food, Pharmaceutical & Bioengineering Division Plenary Session
15A01	290 - Barrier Membranes for Food Packaging

15A02	291 - Computational Methods in the Food, Pharmaceutical and Agricultural Industries
15A04	292 - Advances in Fermentation Technology
15B01	308 - Heat and Mass Transfer in Particulate and Multiphase Systems
15B02	294 - Fluid Particle Interactions in the Pharmaceutical Industry
15B03	309 - Nanostructured and Coated Particles
15B04	306 - Solids Handling in Food, Pharmaceutical and Bioengineering
15B05	293 - Design of Bio-Processes
15B06	307 - Controlled Release Membranes for Pharmaceutical Applications
15B07	300 - Catalysis and Reaction Engineering for Pharmaceutical Applications
15B08	296 - Supercritical Fluid Technologies for Pharmaceutical and Biotechnology Applications
15B09	295 - Novel Carriers for Drug and Cell Delivery I
15B10	304 - Modeling and Drug Delivery Systems
15B11	302 - Developments in Viral Vaccines and Gene Therapy I
15B12	301 - Drug Delivery I
15B13	297 - Advances in Protein Structure, Function, and Stability I
15B14	298 - Novel Carriers for Drug and Cell Delivery II
15B15	303 - Drug Delivery II
15B17	299 - Advances in Protein Structure, Function, and Stability II
15B18	305 - Developments in Viral Vaccines and Gene Therapy II
15C01	327 - Advances in Biocatalysis and Protein Engineering I
15C02	317 - Advances in Bioseparations: Membrane Separations in Biotechnology and Biomedical Engineering
15C03	314 - New Tools for Metabolic Engineering
15C04	328 - Microscale Separations in Biotechnology
15C05	321 - Advances in Bioseparations: Chromatographic Separations
15C06	319 - Polymers and Materials from Renewable Resources I
15C07	323 - Polymers and Materials from Renewable Resources II
15C08	324 - Advances in Genomics
15C09	311 - Advances in Proteomics
15C10	320 - Advances in Bioinformatics: Proteins and Arrays
15C15	318 - Modeling and Operation Methods in Biosystems
15C16	326 - Analysis and Control of Biological Systems
15C17	313 - New Developments in Bioreactor Technology
15C18	330 - Advances in Animal and Insect Cell Culture
15C19	333 - Advances in Plant Cell Culture
15C20	325 - Advances in Protein Expression & Post-Translat. Modification
15C21	312 - Advances in Biosensors
15C22	334 - Advances in Bioprocessing, Sensors, Control & Optimization
15C23	331 - Advances in Metabolic Engineering
15C24	322 - Nanotechnology in Bioengineering: Applications to Detection, Diagnostics and Sensing
15C25	310 - Reactor Engineering for Biomass Feedstocks
15C26	329 - Biological Conversions and Processes for Renewable Feedstocks
15C27	315 - Bio-Inspired and Biomimetic Polymeric Materials

15C28	<u>316 - Advances in Bioinformatics: Networks and Pathways</u>
15C29	<u>332 - Advances in Biocatalysis and Protein Engineering II</u>
15D01	<u>341 - Advances in Tissue Engineering</u>
15D02	<u>336 - Thermophysical Properties of Biological Systems</u>
15D03	<u>345 - Applied Mathematics in Bioengineering</u>
15D04	<u>348 - Colloidal and Surface Interactions with Biological Systems</u>
15D05	<u>342 - Modeling and Control of Biomedical Processes</u>
15D06	<u>339 - Stem Cell Technologies</u>
15D07	<u>335 - Cell Adhesion and Migration</u>
15D08	<u>337 - Intracellular Processes</u>
15D10	<u>343 - Receptor-Medicated Phenomena</u>
15D11	<u>346 - Cancer and Cardiovascular Diseases</u>
15D12	<u>340 - BioMEMS</u>
15D13	<u>338 - Cellular and Tissue Processes</u>
15D14	<u>344 - Biomimetic Approaches to Material Design</u>
15D15	<u>347 - Control of Pharmaceutical and Biological Processes</u>

Code	Book Number - Sponsored Sessions
02B03	<u>106 - Crystallization of Pharmaceutical and Biological Molecules I</u>
02B06	<u>107 - Crystallization of Pharmaceutical and Biological Molecules II</u>
03001	<u>137 - Dynamics and Modeling of Particulate Systems I</u>
03018	<u>141 - Dynamics and Modeling of Particulate Systems II</u>
08039	<u>213 - Biomimetics</u>
09004	<u>224 - Green Bioprocessing II: Specialty Products</u>
09005	<u>231 - Environmental Biotechnology: Remediation and Pollution Control I</u>
09006	<u>222 - Green Bioprocessing I: Value-Added Conversions of Waste Streams</u>
09018	<u>234 - Environmental Biotechnology: Remediation and Pollution Control II</u>
12005	<u>285 - Process Development Tools for the Pharmaceutical and Fine Chemicals Industries</u>
15B09	<u>295 - Novel Carriers for Drug and Cell Delivery I</u>
15B10	<u>304 - Modeling and Drug Delivery Systems</u>
15B11	<u>302 - Developments in Viral Vaccines and Gene Therapy I</u>
15B14	<u>298 - Novel Carriers for Drug and Cell Delivery II</u>
15b18	<u>305 - Developments in Viral Vaccines and Gene Therapy II</u>
15C24	<u>322 - Nanotechnology in Bioengineering: Applications to Detection, Diagnostics and Sensing</u>
T4001	<u>28 - Chemicals and Materials from Renewable Feedstocks Plenary</u>

Group T3 - Bioinformatics Topical

Code	Book Number - Sessions offered by this group
T3001	<u>22 - Bioinformatics and Functional Genomics I: Perspectives</u>
T3002	<u>23 - Bioinformatics and Functional Genomics II: Focus on Protein and Structural Bioinformatics</u>
T3003	<u>24 - Bioinformatics and Metabolic Engineering I: Perspectives and Applications</u>

T3004	<u>25 - Bioinformatics and Metabolic Engineering II: Panel Discussion - The Scope and Future of Metabolic Engineering</u>
04011	<u>165 - Bioinformatics in Chemical Engineering Education</u>

금번 학회기간 중 각 session 에서 발표되는 연구결과들과 동향에 대한 보고서가 신속하게 CHERIC 에 게재될 수 있도록 최선을 다할 것입니다. 관련 자료를 가급적 많이 입수할 계획인데 필요하신 정보가 있으시면 미리 본인에게 메일로 연락주시기 바랍니다.

본 연구동향 파악 취재가 관련 연구자들과 대학원생들에게 새로운 이정표의 제시와 자극이 되기를 희망합니다.