

A black and white photograph of the Chicago skyline at night, viewed from across a body of water. The city lights are reflected in the water, and the sky is dark with some clouds. The foreground shows a rocky shoreline.

BARRACUDA
VIRTUAL REACTOR

USERS' CONFERENCE 2019

June 27 & 28
W Chicago Lakeshore Hotel
Chicago, Illinois USA

A Lot Happens in Four Years!

2015 – Inaugural Users' Conference

- 27 attendees
- 6 countries
- 9 international participants



2019 – Users' Conference

- 74 attendees
- 13 countries
- 29 international participants



30,000-foot view: Where did we come from?

- 1990s • Co-founders developed 3D MP-PIC-based tool for industrial scale fluid/particle flows
- 2006 • CPF D Software founded, commercialization, explored various applications / industries
- 2009 • Compressible gases, multiple gas species, thermal solver, chemical reactions
- 2012 • Multi-component particles, discrete particle reactions
- 2014 • Full GPU parallel on Linux and Windows enabling true Virtual Reactor™



The Biggest Difference – User Community

2015 – Inaugural Users' Conference

- 27 attendees / 6 countries
- R&D
- Academic users
- Industrial early adopters

2019 – Users' Conference

- 74 attendees / 13 countries
- R&D
- Academic users
- Industrial early adopters
- Broad community
 - Software users
 - Service clients
 - International distributors
 - R&D partnerships
 - Technology licensors
 - Industrial suppliers

Industry Presentations

Computational Modeling in FCC Design and Troubleshooting

Raj Singh

TechnipFMC

Advances in Barracuda Simulations of TRI Steam Reformer

Ravi Chandran

ThermoChem Recovery International

Barracuda Modeling of Oil Sand Transport, Hydraulic Fracturing and Biomass Conversion in the Energy Industry

Kuo Chen Tsai

Shell

Usage of Barracuda Virtual Reactor in the Cement Industry

Adlan Omer

aixprocess GmbH

FCC Stripper/Standpipe Case Study – Off-Design Performance for Low Fines Catalyst

**Peter Loezos and
Bryan Tomsula**

CPFD Software

R&D Presentations

Modeling of a Vortexing Circulating Fluidized Bed (VCFB) for Process Intensification

[Justin Weber](#)

US Department of Energy, NETL

Comparison of CFD Models in Predicting Fluidized Behavior in Geldart B Particles

[Sina Tebianian](#)

IFP Energies Nouvelles

Three Dimensional Full-Loop Simulation of Cold Gas-Solid Flow in Pilot-Scale Dual Fluidized Bed System

[Frederik Zafiryadis](#)

Haldor Topsøe /

Technical University of Denmark

1D and 3D Numerical Simulations of a 100kWth Coal CFB Combustor

[Changwon Yang](#)

University of Science & Technology, Korea

CFD Model Optimization for Simulation of Segregation in a Fluidized Bed of Particles with Different Sizes and Densities

[Alex Kokourine](#)

Hatch

Partner Presentations

How PSRI Streamlines our Work Process using Barracuda Virtual Reactor

Ray Cocco

Particulate Solid Research, Inc.

Reduced Chemical Mechanism for Chemical Looping Combustion System

Hong-Shig Shim

Reaction Engineering International

Acceleration of Stiff Chemistry Through TensorFlow and Machine Learning

Dirk Van Essendelft

US Department of Energy, NETL

Introducing Tecplot for Barracuda

Scott Fowler

Tecplot

NVIDIA GPUs: What and Why

Reynaldo Gomez

NVIDIA

CPFD Presentations

CPFD 2.0

Rajat Barua

CPFD Software

Introduction to CPFD Software Development

James Parker

CPFD Software

Development Update: What's New and What's Coming

James Parker

CPFD Software

Advanced Training: Recent Features, Output Analysis and Current Best Practices Part 1

Bryan Tomsula

CPFD Software

Advanced Training: Recent Features, Output Analysis and Current Best Practices Part 2

Ali Akhavan

CPFD Software

Practical Deployment: Hardware, Operating Systems and Other Considerations

Sam Clark

CPFD Software

Community – Make the Most of Networking Opportunities

Partners / R&D Collaborators

- PSRI, REI, US DOE - NETL

Industry suppliers and technology licensors

- Tecplot, NVIDIA, Albemarle, Johnson Matthey
- TechnipFMC, Lummus Technology, Honeywell – UOP

CPFD Software and our international distributors

- CPFD Software, aixprocess, Beijing Hi-Key Technology Company, CPFD Labs, Kyung-Won Tech

Students

Museum of Contemporary Art – 6:00 PM Tonight

Private viewing,
reception and dinner

Business Formal
Attire Suggested



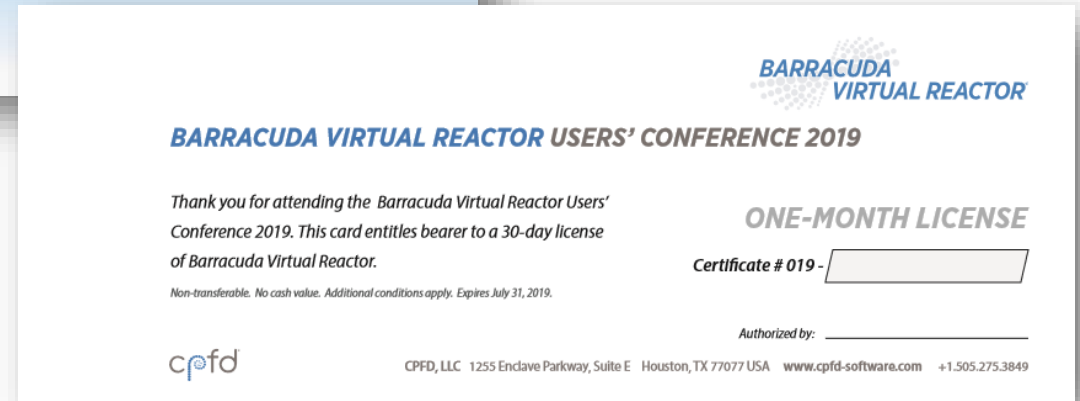
Welcome Packets

Don't forget to sign in and pick up your welcome packet including:

- Program book
- License certificate*
- Gift

Presentations will be available soon

- PDF and videos on our web site



*Some restrictions apply

Social Media & WiFi

Social media

- Please use #BVRUC when posting to social med



#BVRUC

WIFI

- Network: #BVRUC
- Password: VirtualReactor

We Want Your Feedback

During the conference

- Ask questions
- Talk to us

Please respond to our conference survey

Survey

Please take a few moments and scan the QR Code below or visit the website to complete the conference survey.

We want your feedback!



cpfd-software.com/survey2019

Thank You

We appreciate your time and we are grateful you could be part of this event. We look forward to our next conference.

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