# PHANEENDRA B. KONDAPI, Ph.D.

KBR Adjunct Professor in Subsea Engineering

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#### **EDUCATION**

- PhD, Chemical Engineering, Tennessee Technological University, Cookeville, TN
- MS, Chemical Engineering, Andhra University, Visakhapatnam, India
- BS, Chemical Engineering, Andhra University, Visakhapatnam, India

#### **EXPERIENCE**

<b>Senior Technical Advisor – Flow Assurance</b> Granherne/KBR, Houston, TX	May 2014 – present
KBR Adjunct Professor – Subsea Engineering University of Houston, Houston, TX	Jan. 2011 – present
Engineering Manager – Flow Management FMC Technologies Inc, Houston, TX	Feb. 2010 – Jan. 2014
Project Manager; Senior Consultant Multiphase Solutions Inc, Houston, TX	Sep. 2004 – Nov. 2009
Lead Engineer TRAX Corporation, Forest, VA	Aug. 2000 –Sep. 2004
Research Assistant Center for Manufacturing Research, Cookeville, TN	Jan. 1996 – May 2000
<b>Project Lead (Consultant)</b> ABB Simcon Inc, Bloomington, NJ	Aug. 1995 – Dec. 1995
Project Lead (Consultant) Atlantic Simulation Inc, Shrewsbury, NJ	Sep. 1993 – July 1995
Senior Engineer; Simulation Engineer Tri-Angle Simulation Private Limited, Bombay, India	Sep. 1991 – Dec. 1995
<b>Research Fellow</b> Energy Engineering Laboratory, Andhra University, India	Dec. 1990 – June 1991

## **PROFESSIONAL SOCIETIES**

- Member, Society for Petroleum Engineers (SPE)
- Founding Member, Upstream Engineering and Flow Assurance (UEFA) Forum, AIChE
- Founding Faculty Advisor, Subsea Engineering Society, University of Houston

## HONORARY SOCIETIES

• Sigma Xi, The Scientific Research Society (1999)

## AWARDS/HONORS

- Chair, SPE Flow Assurance Technical Section, 2015
- Chair, SPE Flow Assurance The Future State of the Art Forum, Newport Beach, CA, 2015
- SPE Teaching Fellow Award, Society of Petroleum Engineers (SPE) International, 2013
- Outstanding Alumnus Award, College of Engineering, Andhra University, 2013
- Best Student Paper Award, Engineering and Engineering Technology Presentations, Tennessee Academy of Sciences Meeting, 1998
- National Merit Scholarship, State Government of Andhra Pradesh, India
- Mathematical Olympiad Certificate, APAMT, India

## EDUCATIONAL ACTIVITIES

- Co-developer, First and only Subsea Engineering Program in the USA, 2010
- Co-designer, Subsea Engineering Certificate Program curriculum at UH, 2010
- Co-designer, Subsea Engineering Masters Program curriculums at UH, 2011
- Designer and developer, a new graduate level course, Flow Assurance, an industry-ready three-credit hour graduate level university course, a first in the USA, 2011
- Co-designer, a new graduate level course, Subsea Processing and Artificial Lift, 2012
- Developer, "Reverse Circular Teaching" a new practical teaching method, 2011
- Founding Member, Global Subsea University Alliance, 2010~
- Faculty Advisor, Subsea Underwater Technology-Subsea Engineering Society (SUT-SES), University of Houston, 2013~
- Faculty Advisor, Graduate Indian Students Association, University of Houston, 2014~

## PROFESSIONAL ACTIVITIES

- Reviewer and panelist, Small Business Innovation Research (SBIR) Program, National Science Foundation (NSF), 2011
- First Vice-Chair, SPE Flow Assurance Technical Section, 2014
- Member, SPE International Faculty Innovative Teaching Awards Committee, 2014~
- Member, AIChE Subcommittee, Offshore Technology Conference (OTC) Program, 2012~
- Member, Flow Assurance Steering Committee, OTC Program, 2013~
- Member, Subsea Processing Steering Committee, OTC Program, 2013~
- Co-Chair, AIChE UEFA Program Committee, 2013
- Member, AIChE UEFA Program Committee, 2011, 2012
- Member, Global Training Committee, Society of Petroleum Engineers (SPE), 2012~
- Member, Southwest Process Technology Conference Committee, AIChE, 2012~
- Member, Subsea & Arctic Leak Detection Symposium Program Committee, 2011, 2012

# **ARTICLES**

- ASME-DSC Magazine, "<u>Flow Assurance: Deja-vu in Subsea Engineering</u>?", Pages 13-15, March 2015
- *E&P Magazine*, "<u>Training tomorrow's subsea engineers</u>", Pgs. 12-14, August 2014
- Offshore Technology Conference (OTC) 2014 Publication, "<u>Need of the Hour: Industry-Ready Education</u>", Page 19, Tuesday, May 6, 2014
- Upstream Technology Magazine, "<u>An ounce of prevention</u>", Pgs. 52-54, Vol.1, 2014
- *Oil and Gas Facilities Magazine,* "Challenges of Processing and Transporting Heavy Crude", Pages 22-26, October 2013
- *E&P Magazine*, "<u>Emerging flow solutions drive industry's subsea advances</u>", August 2013
- *RIGZONE.com,* "Subsea Separation Tops List of Subsea Technology in Demand", June 6, 2013
- Offshore Technology Conference (OTC) 2013 Publication, "<u>Reviewing Flow Assurance</u> <u>Technologies</u>", Page 28, Thursday, May 9, 2013

## INVITED LECTURES

- Invited Lecture, *Innovative Teaching Methods in Engineering Education*, International Faculty Session, SPE Annual Technical Conference and Exhibition, New Orleans, September 29, 2013
- Invited Speaker, *Subsea Engineering Program and Flow Assurance*, Pipesim User Group Meeting, Digital Technology Theater, Schlumberger, Houston, October 21, 2014
- Invited Speaker, *Flow Assurance Challenges and Technologies*, Schlumberger Fluid Group, Houston, August 22, 2014
- Guest Lecture, *How to be a Successful Student?*, College of Engineering, Andhra University, Visakhapatnam, India, July 11, 2014
- Guest Lecture, *Need for Industry Ready Education*, Anil Neerukonda Institute of Technology and Sciences (ANITS), Visakhapatnam, India, July 16, 2013
- Guest Lecture, *Fluid Phase Behavior in Flow Assurance*, Department of Chemical Engineering, University of Houston, November 4, 2013
- Invited Lecture, *Overview to Subsea Engineering*, RGIPT & PDPU Exchange Students from India, Department of Petroleum Engineering, University of Houston, June 14, 2013
- Invited Lecture, *Overview to Subsea Engineering*, PDPU Exchange Students from India, Department of Petroleum Engineering, University of Houston, July 6, 2012

## CONFERENCES/SESSIONS ORGANIZED

- SPE Flow Assurance The Future State of the Art Forum, Newport Beach, CA, May 31- June 5, 2015
  - Chair, *Forum Organizing Committee*
  - Session Manager, <u>How Does Our Future Success of Flow Assurance Impact the Economic</u> <u>Recovery Limits?</u>

- o 7<sup>th</sup> AIChE Southwest Process Technology Conference, Galveston, TX, October 1-2, 2015
  - Organizer and Chair, Upstream Process Technology Session
- Offshore Technology Conference (OTC) 2015, Houston, TX, May 4-7, 2015
  - Organizer and Chair, Subsea Processing Session
  - Organizer and Chair, Flow Assurance Session
- o 6<sup>th</sup> AIChE Southwest Process Technology Conference, Galveston, TX, October 9-10, 2014
  - o Organizer and Chair, <u>Upstream Oil and Gas Session</u>
- o Offshore Technology Conference (OTC) 2014, Houston, TX, May 5-8, 2014
  - Organizer and Chair, <u>Subsea Processing Session</u>
  - Organizer and Chair, *Flow Assurance Session*
  - Organizer and Speaker, <u>Global Subsea University Alliance Providing Talent for the</u> <u>Future</u>
- o 5<sup>th</sup> AIChE Southwest Process Technology Conference, Galveston, TX, October 3-4, 2013
  - Organizer and Chair, <u>Upstream Oil and Gas Session</u>
- o Subsea & Arctic Leak Detection Symposium (SALDS), Houston, TX, December 5-6, 2012
  - Organizing Committee Member
- o <u>4<sup>th</sup> AIChE Regional Process Technology Conference</u>, League City, TX, October 4-5, 2012
  - Organizer and Chair, Upstream Oil and Gas Session (Inaugural Session)
  - Moderator, Panel Session: The need to integrate Chemical Engineering along with Petroleum, Mechanical and Civil Engineering to develop/improve Upstream Oil and Gas Technologies and how it is relevant to various aspects of Upstream Engineering and Flow Assurance
- <u>1<sup>st</sup> International Conference on Upstream Engineering and Flow Assurance</u>, AIChE, Houston, TX, April 1-5, 2012
  - Organizer and Co-Chair, Upstream and Subsea Processing Session
  - o Organizer and Co-Chair, The Future Wave Graduate Students Session
  - o Organizer and Co-Chair, The Future Wave Graduate Students Poster Session
- o Subsea & Arctic Leak Detection Symposium (SALDS), Houston, TX, November 8-9, 2011
  - o Organizing Committee Member
- o <u>6<sup>th</sup> AIChE/SPE Joint Workshop on Flow Assurance</u>, Houston, TX, September 26-28, 2011
  - Organizer and Co-Chair, Compact/Modular Processing for Remote Applications Session

# NEWS/QUOTES

- KBR, Senior KBR Technical Advisor Honored for his work in Flow Assurance, March 17, 2015
- University of Houston, Cullen College of Engineering, "<u>ASME Magazine Taps into UH Subsea</u> <u>Engineering Experts</u>", March 4, 2015
- University of Houston, Mechanical Engineering, <u>Subsea Students Present at PIPESIM User</u> <u>Group Meeting</u>, October 28, 2014
- University of Houston, Cullen College of Engineering, "<u>E&P Magazine Spotlights Subsea</u> <u>Engineering Program</u>", August 6, 2014

- University of Houston, Cullen College of Engineering, "Subsea Engineering Program Major Player in 2014 Offshore Technology Conference", May 5, 2014
- University of Houston, Cullen College of Engineering, "Subsea Engineering Flow Assurance Course Boasts 120 Grad Students", January 21, 2014
- University of Houston, Cullen College of Engineering, "Subsea Professor Wins SPE Teaching Excellence Award", August 27, 2013
- Offshore Engineer (OE) Magazine, "University launches subsea engineering program", Page 75, November 2013 (reprinted in <u>UH</u> and <u>OEdigital.com</u>)
- University of Houston, Mechanical Engineering, "<u>Subsea Professor Urges Creation of</u> <u>National Institute for Subsea Engineering at Offshore Technology Conference</u>", May 14, 2013
- *Oil and Gas Facilities Magazine, "SPE Technical Section Addresses Flow Assurance", Page* 32, February 2014
- Houston Chronicle Daily Newspaper "<u>UH subsea society rises to the top</u>", January 2, 2014 (reprinted in <u>Fuelfix</u>)
- *RIGZONE.com,* "<u>UH Subsea Engineering Certificate Offers Mix of Real World, Theory</u>", Friday June 8, 2012
- WellLinked, "<u>An Industry First</u>", Page 9, 3<sup>rd</sup> Quarter 2012
- TheHindu.com, ANITS "<u>Need for Industry Ready Education</u>", July 22, 2013
- University of Houston, Cullen College of Engineering, "<u>Students Start First Subsea</u> <u>Engineering Organization</u>", September 5, 2013
- OilOnline.com, "Subsea Engineering Society dives into first year", October 14, 2013
- Thedailycougar.com, "Subsea Engineering Society makes waves across campus", October 1, 2013
- FMCTechnologies.com, "The University of Houston Subsea Engineering Program", 2013
- *SPE-GCS Newsletter*, "SPE, AIChE Co-Host Workshop on Challenges in Flow Assurance, Sept 26–28, Houston", Page 18, September 2011
- *Chemical Engineering Progress Magazine*, "AIChE, SPE Co-Host Workshop on Challenges in Flow Assurance, Sept. 26–28, Houston", Page 19, August 2011

# **PRESENTATIONS**

- <u>SPE International Webinar</u>, March 26, 2015, *An Insight to Current Flow Assurance Technologies*
- <u>Offshore Technology Conference 2014</u>, Houston, TX, May 5 8, 2013. *Need for Industry Ready Education: Flow Assurance Course – A Case Study*, OTC-25262
- <u>Offshore Technology Conference 2014</u>, Houston, TX, May 5–8, 2014. *Global Subsea University Alliance Providing Talent for the Industrial Future*, Breakfast Talk
- <u>SPE International Webinar</u>, April 17, 2014, *Innovative Teaching Methods in Engineering Education for Student Success*
- <u>SPE Annual Technical Conference and Exhibition</u>, New Orleans, September 29, 2013, *Innovative Teaching Methods in Engineering Education*, International Faculty Session

- <u>Offshore Technology Conference 2013</u>, Houston, TX, May 6 May 9, 2013. *Today's Top 30 Flow Assurance Technologies: Where do they stand?*, OTC-24250
- <u>Offshore Technology Conference 2012</u>, Houston, TX, April 30 May 4, 2012. *Recirculation Loop Analysis for a Subsea Boosting System*, OTC-23644
- <u>1<sup>st</sup> International Conference on Upstream Engineering and Flow Assurance</u>, AIChE, Houston, Texas, April 1-5, 2012. *Real-time Monitoring of a Subsea Boosting System* (35c)
- <u>American Institute of Chemical Engineers (AIChE) 2012 Spring Meeting</u>, Houston, Texas, April 1-5, 2012. *Reverse Circular Teaching: A Pragmatic and Effective Way to Increase Successful Understanding* (140a)
- <u>UH Effective Teaching Practices Showcase</u>, Houston, Texas, April 15, 2011. *Reverse Circular Teaching: A Pragmatic and Effective Way to Increase Successful Understanding*
- <u>Subsea and Arctic Leak Detection Symposium (SALDS 2011)</u>, Houston, Texas, November 8-9, 2011. *Subsea Leak Detection: A Case Study*
- <u>Subsea and Arctic Leak Detection Symposium (SALDS 2010)</u>, Houston, Texas, October 6-7, 2010. *FlowManager Leak Detection System*
- <u>29<sup>th</sup> International Thermal Conductivity Conference</u>, Birmingham, Alabama, June 24-27 (2007). Partial Pressure Profiles of Blowing Agent Gas in Polymer Foams having Non-Uniform Density
- <u>22<sup>nd</sup> International Conference on Thermal Insulation</u>, The Greenbrier, White Sulphur Springs, West Virginia, December 11-12 (2006). *Compressive Strength of Closed-Cell Foams Having Non-Uniform Density*
- <u>American Institute of Chemical Engineers (AIChE) 2006 Annual Meeting</u>, San Francisco, California, November 12-17 (2006). *Transient Diffusion of Gases in Polymer Foams Having Non-Uniform Density* (317t)
- <u>21<sup>st</sup> International Conference on Thermal Insulation</u>, The Greenbrier, White Sulphur Springs, West Virginia, January 9-10 (2006). *Evaluation of Properties for Foams having Variable Density*
- <u>28<sup>th</sup> International Thermal Conductivity Conference</u>, St.Andrews-by-the-Sea, New Brunswick, Canada, June 26-29 (2005). *The Long-Term Thermal Performance of Foams having Non-Uniform Density*
- <u>108<sup>th</sup> Meeting of Tennessee Academy of Science</u>, Cookeville, Tennessee, November 20 (1998). *Evaluation of Effective Diffusion Coefficients of CO2 in Closed-Cell Polyurethane Foam Specimens*
- <u>107<sup>th</sup> Meeting of Tennessee Academy of Science</u>, Tullahoma, Tennessee, November 21 (1997). *Transient Gas Diffusion in a Closed-Cell Foam: A New Approach*
- <u>24<sup>th</sup> International Thermal Conductivity Conference</u>, Pittsburgh, Pennsylvania, October 26-29 (1997). Influence of Initial Internal Cell Gas Pressure on the Aged Cell Gas Pressure Profiles
- <u>12<sup>th</sup> International Conference on Computer Aided Production Engineering</u>, Cookeville, Tennessee, August 5-7 (1996). *Direct Digital Control of Environmentally Isolated Seafood Manufacturing Systems*

## PUBLICATIONS/PROCEEDINGS

- Phaneendra Kondapi, *Need for Industry Ready Education: Flow Assurance Course- A Case Study, Conference Proceedings, OnePetro, 2014 Offshore Technology Conference*
- Phaneendra Kondapi and Randi Moe, *Today's Top 30 Flow Assurance Technologies: Where do they stand?*, <u>Conference Proceedings</u>, OnePetro, 2013 Offshore Technology Conference
- Phaneendra Kondapi and Janardhan Davalath, *Recirculation Loop Analysis for a Subsea Boosting System*, <u>Conference Proceedings</u>, OnePetro, 2012 Offshore Technology Conference
- Phaneendra Kondapi, Anita Sengebusch and Janardhan Davalath, *Real-time Monitoring of a Subsea Boosting System*, <u>Conference Proceedings</u>, 2012 AIChE Spring Meeting
- P. B. Kondapi, J. R. Booth and D. W. Yarbrough, *Partial Pressure Profiles of Blowing Agent Gas in Polymer Foams having Non-Uniform Density*, <u>Thermal Conductivity 29</u>, DEStech Publications, (2008) 88-99
- Phaneendra B. Kondapi, J. Richard Booth and David W. Yarbrough, *Compressive Strength of Closed-Cell Foams having Non-Uniform Density*, <u>Proceedings of the International Conference on Thermal Insulation</u>, 22 (2007) 173-182
- P. B. Kondapi, J. R. Booth and D. W. Yarbrough, *The Long-Term Thermal Performance of Foams having Non-Uniform Density*, <u>Thermal Conductivity 28</u>, DEStech Publications, (2006) 80-95
- Phaneendra B. Kondapi, J. Richard Booth and David W. Yarbrough, *Transient Diffusion of Gases in Polymer Foams Having Non-Uniform Density*, <u>Conference Proceedings</u>, 2006 AIChE Annual Meeting
- Phaneendra B. Kondapi, J. Richard Booth and David W. Yarbrough, *Evaluation of Properties* for Foams having Variable Density, <u>Proceedings of the International Conference on</u> <u>Thermal Insulation</u>, 21 (2006), 176-190
- P. B. Kondapi, J. R. Booth and D. W. Yarbrough, *Transient Gas Diffusion in a Closed-Cell Foam using an Implicit Finite Difference Method*, <u>Thermal Conductivity 24</u>, Technomic Publishing Company, (1999) 428-436
- J. Richard Booth and Phaneendra B. Kondapi, *Direct Digital Control of Environmentally Isolated Seafood Manufacturing Systems*, <u>Journal of Materials Processing Technology</u>, 61(1996), 27-33

# <u>THESES</u>

• **Ph.D.:** Development of a Transient Multicomponent Diffusion Model for Closed-Cell Rigid Polymer Foam

Advisors: Dr. David W. Yarbrough and Dr. J. Richard Booth

• **M.S.:** Studies in Phase Equilibria: Determination and Evaluation of Limiting Activity Coefficients

Advisors: Prof. A. Ravi Prasad and Prof. K. Venkateswara Rao

# **GLOBAL TRAVEL EXPERIENCE**

Norway, Brazil, Mexico, England, Qatar, Singapore, Bahamas, UAE, Bahrain, Saudi Arabia, USA and India

## **COURSES TAUGHT AT UNIVERSITY OF HOUSTON**

- Spring 2015 SUBS6310 Flow Assurance
- Spring 2014 SUBS6310 Flow Assurance
- Spring 2013 SUBS6310 Flow Assurance
- Spring 2012 MECE6397 Flow Assurance
- Spring 2011 MECE6397 Flow Assurance
- Fall 2012 SUBS6340 Subsea Processing and Artificial Lift (Group Teaching)

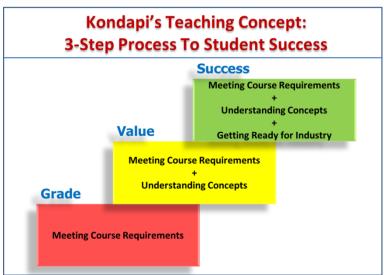
## STUDENTS ADVISED

- S. Deshpande., ME Graduate Student, MECE6397-Special Topics, Fall 2013
- R. Vijendra Prasad, CE Graduate Student, Masters Thesis, Summer 2014
- K. Pawar, ME Graduate Student , MECE6397-Special Topics, Fall 2014
- S. Gaddipati, ME Graduate Student, MECE6397- Special Topics, Fall 2014

## STUDENT PRESENTATIONS

- <u>1<sup>st</sup> International Conference on Upstream Engineering and Flow Assurance</u>, AIChE, Houston, Texas, April 1-5, 2012. *Design Field Architecture for Deepwater Production Wells Based On Flow Assurance Criteria*, By Sridhar Appanapalli and Manjunath Terwad
- <u>Pipesim User Group Meeting 2015</u>, Digital Technology Theater, Schlumberger, Houston, October 21, 2014. *Deepwater Field Layout Design using Pipesim*, By Neha Jhinge, Kapil Pawar and Sai Gaddipati

## **TEACHING CONCEPT**



## TEACHING METHOD

# **Reverse Circular Teaching**

## TEACHING PHILOSOPHY

Preparing Next Generation of Industry-Ready Workforce @ University Level