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Engineering & Scientific Consulting

Harri Kytömaa, Ph.D., P.E., CFEI, FASME

Corporate Vice President and Principal Engineer | Thermal Sciences
Natick
+1-508-652-8519 | hkytomaa@exponent.com

Professional Profile

Dr. Kytömaa specializes in mechanical engineering and the analysis of thermal and flow processes. He applies his expertise to the investigation and prevention of failures in mechanical systems.

Dr. Kytömaa also investigates fires and explosions and their origin and cause. He consults in the utilities, oil and gas, and chemical industries. Dr. Kytömaa's project experience includes consumer products, intellectual property matters, automobiles, aircraft, turbines, compressors, boilers, steam generators, pneumatic and hydraulic systems, instrumentation, nuclear waste management, heat transfer systems, fuel distribution, delivery and storage systems, including LNG facilities.

Dr. Kytömaa has decades of experience in the area of dynamics and thermal hydraulics of piping systems, valves and pipelines. He has developed flow modeling tools for such systems and their components and has applied these to drilling and downhole applications. He pioneered the modeling of the acoustics of drilling fluid piping systems for acoustic telemetry and Measurement-While-Drilling (MWD), which was one of the enabling technologies for directional drilling. Dr. Kytömaa has also developed ultrasonic techniques for both medical and engineering applications, including instrumentation for flow measurement and the characterization of dense suspensions.

Dr. Kytömaa was Assistant Professor and Associate Professor of Mechanical Engineering at the Massachusetts Institute of Technology, where he was head of the Fluid Mechanics Laboratory. He has also held positions as Visiting Professor at the Helsinki University of Technology and at the DOE Pacific Northwest Laboratory in Washington and served as Lecturer at the Worcester Polytechnic Institute. Dr. Kytömaa consulted for Teleco Oil Field Services, Inc., developing MWD technology and other downhole applications.

Academic Credentials & Professional Honors

Ph.D., Mechanical Engineering, California Institute of Technology (Caltech), 1986

M.S., Mechanical Engineering, California Institute of Technology (Caltech), 1982

B.Sc., Engineering Science, Durham University, England, 1979

Associate Professor, Massachusetts Institute of Technology, Head of Fluid Mechanics Laboratory, 1990-1994.

Assistant Professor, Massachusetts Institute of Technology, 1986-1990.

Dissertation Technical Committee Member. Li Chang, "Influence of Turbulence on Fuel Slick Fires with an Immersed Conductive Object." Worcester Polytechnic Institute. September 2021.

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Guest Lecturer. Massachusetts Institute of Technology. Course 10.490 Integrated Chemical Engineering. 2019 and 2020 (one lecture per year).

Fellow of the American Society of Mechanical Engineers

Keynote Speaker: AIChE 2020 Virtual Spring Meeting and 16th Global Congress on Progress Safety. Topical Conference on Gas Utilization. August 18, 2020.

Session Chairman, LNG Plant Safety and Protection: 2014, 2013, 2012 and 2011 AIChE Spring Meetings & 10th, 9th, 8th and 7th Global Congress on Process Safety.

Keynote Speaker: AIChE 2014 Spring National Meeting, 10th Global Congress on Process Safety. Topical Conference on Gas Utilization, New Orleans, LA, March 30-April 3, 2014.

Liquefied Natural Gas (LNG) installations and equipment, ISO /TC 67/ WG10: Committee Member, 2008-2014.

Outstanding Presentation Award, AIChE Spring Meeting, 2013

Excellence Award at the SAE 2006 World Congress & Exhibition

Lewis F. Moody Award for best paper on a subject useful in engineering practice presented to American Society of Mechanical Engineers (ASME), 1993.

Henry L. Doherty Professor in Ocean Utilization, 1991-1993.

Chairman, Organizing Committee, Engineering Foundation Workshop, Davos, Switzerland, 1993.

National Science Foundation Review Panelist, Washington, DC, 1990.

National Science Foundation Group Leader, Acoustic Methods Workshop on Visualization of Particulate Two-Phase Flows, Washington, DC, 1990.

Diver in the Finnish Navy, rank Able Seaman, Distinguished Service, 1980.

Institute of Mechanical Engineers Prize for Outstanding Project Work (United Kingdom), 1979.

Licenses and Certifications

Professional Engineer, Alabama, #PE35697

Professional Engineer, Arkansas, #16481

Professional Engineer Mechanical, California, #34290

Professional Engineer Mechanical, Florida, #84434

Professional Engineer Mechanical, Louisiana, #PE.0035054

Professional Engineer Mechanical, Maine, #PE12370

Professional Engineer Mechanical, Massachusetts, #48202

Professional Engineer, Michigan, #6201057546

Professional Engineer, New Jersey, #24GE05391800

Professional Engineer, New York, #89361

Professional Engineer Mechanical, Oklahoma, #28024

Professional Engineer Mechanical, Texas, #129541

Professional Engineer Mechanical, Washington, #47486

Short Course on Aircraft Fire protection/Mishap Investigation

National Waste Operations and Emergency Response Training, 29 CFR 1910.120

Asbestos Worker, pursuant to Title II of the Toxic Substance Control Act, 15 USC 2646

PADI Certified Open Water Scuba Diver

Certified Fire Investigator (CFI)

Certified Fire and Explosion Investigator (CFEI)

Professional Affiliations

American Society of Mechanical Engineers (Fellow)

American Institute of Chemical Engineers

International Association of Fire Investigators

Society of Fire Protection Engineering

Society of Petroleum Engineers

Sigma Xi, The Scientific Research Honor Society

National Fire Protection Association

Languages

Finnish

French (France)

Patents

Hydrogen generator, US 9705145 B2 (Kmetich TJ, Zsigo GA, Mick AR, Kytömaa HK), 2017

Publications

Kytömaa H, Jampole E, McDonald B. Proactive Risk-Informed Hardening for Cold Weather Grid Reliability. WE Magazine 2024; 20-23

Barry, Michael, Colella, Francesco, Gilman, Lindsey, and Kytömaa, Harri. "Wear It Well" Consumer Electronics Test & Development. MA Business Ltd., Launch Issue, July 2021, pp. 44-49.

Kytömaa, H, Colella, F., and Kreuzer, S. Extreme Weather Means Energy Cos. Need New Risk Tools, Law360, April 2021.

Kytömaa HK, Boehm P, Osteraas J, et al. An integrated method for quantifying and managing extreme weather risks and liabilities for industrial infrastructure and operations. Proc Safety Prog. 2019; e12087. https://doi.org/10.1002/prs.12087.

Stern MC, O'Hern SC, Morse TL, Bishop J, Kytömaa HK. Fire risks due to unintentionally energized metal structures. Journal of Fire Sciences. 2017; 35(5):415-426.

Morse T, Cundy M, Kytömaa H. Vehicle fires resulting from hot surface ignition of grass and leaves. SAE Technical Paper 2017-01-1354, 2017, doi:10.4271/2017-01-1354.

Ibarreta AF, Hart RJ, Ponchaut NF, Morrison DT, Kytömaa HK. How does concrete affect evaporation of cryogenic liquids: evaluating liquefied natural gas plant safety. ASME Journal of Risk and Uncertainty in Engineering Systems, Part B 2(1), 2015.

Ibarreta AF, Morrison DR, Kytömaa HK. Small scale and transportation: navigating the risk. LNG Industry Magazine, October 17-24, 2014.

McInerney EH, Hart RJ, Morrison DR, Kytömaa HK. New quantitative risk criteria for US LNG facilities. Process Safety Progress 2014; 33(3):237-246.

Ibarreta A, Ponchaut N, Hart R, Morrison D, Kytömaa HK. Using passive methods to reduce flammable release hazards at LNG facilities. FS-World Magazine (www.fs-world.com) - Oil & Gas Industry, Spring 2014 Edition, pp. 18-22.

Kytömaa HK, Morrison DR. A moving target. LNG Industry Magazine, November/December 2013; 57-62.Morse TL, Kytömaa HK. The effect of turbulence on the rate of evaporation of LNG on water. Journal of Loss Prevention in the Process Industries 2011; 24:791-797.

Morse TL, Kytömaa HK. The effect of turbulence on the rate of evaporation of LNG on water. Journal of Loss Prevention in the Process Industries 2011; 24:791-797.

Kytömaa HK, Morrison DR. The Liquefied Natural Gas (LNG) industry and fire protection regulations. Fire Protection Engineering 2013; 60:8-24.

Morse TL, Kytömaa HK. The effect of turbulence on the rate of evaporation of LNG on water. Journal of Loss Prevention in the Process Industries 2011; 24:791-797.

vPonchaut NF, Kytömaa HK, Morrison DR, Chernovsky MK. Modeling the vapor source term associated with the spill of LNG into a sump or impoundment area. Journal of Loss Prevention in the Process Industries; Nov 2011; 24(6):870-878.

Gavelli F, Chernovsky MK, Bullister E, Kytömaa HK. Modeling of LNG spills into trenches. J Hazard Mater 2010; 180(1-3):332-339.

Gavelli F, Chernovsky MK, Bullister E, Kytömaa HK. Quantification of source-level turbulence during LNG spills onto a water pond. Journal of Loss Prevention in the Process Industries; Aug 2009; 22:809-819.

Gavelli F, Chernovsky M, Kytömaa HK. Modelling pool hazards from large-scale liquefied natural gas spills. Exploration Production: Oil Gas Rev 2008; 6(2):76-82.

Gavelli F, Bullister E, Kytömaa HK. Application of CFD (Fluent) to LNG spills into geometrically complex environments. J Hazard Mater 2008;159(1):158-68.

Myers TJ, Kytömaa HK, Smith TR. Environmental stress-corrosion cracking of fiberglass: Lessons learned from failures in the chemical industry. J Hazard Mater 2007; 142(3):695-704.

Davis SG, Chavez D, Kytömaa HK. Hot surface ignition of flammable and combustible liquids. SAE Paper 2006-01-1014. SAE Trans — J Fuels Lubricants 2006.

Gavelli F, Kytömaa HK. Liquefied natural gas transportation. Coast Guard J Safety at Sea 2005; 62(3):33-36.

Boehm P, Kytömaa HK, Moncarz P. LNG projects: Myths and realities of environmental and safety risks. ABA Energy Committees Newsletter 2005; 3(1):7-10.

Kytömaa HK, Gavelli F. Studies of LNG spills over water point up need for improvement. Oil Gas Journal; May 9, 2005.

Myers TJ, Kytömaa HK, J. Martin RJ. Fires and explosions in vapor control systems: A lessons learned anthology. Process Safety Progress, 2003, vol. 22, no. 4, pp. 195-199.

Martin RJ, Myers T, Hinze P, Kytömaa HK. Test your incinerator knowledge. Chem Engin Progr 2003; 99:36-39.

Martin RJ, Hinze P, Myers T, Kytömaa HK. Thermal oxidizing systems — Test your knowledge to improve your refinery's safety and reliability. Hydrocarbon Processing 2002; 79-80, November.

Kytömaa HK, Kataja M, Timonen. On the effect of pore pressure on the isotropic behavior of saturated porous media. J Appl Phys 1997; 81(11).

Kytömaa HK. Avoiding duct explosions, system changes can lead to disaster. Chem Process 1996; July, Vol 59, no 7, pp 78-81.

Prasad D, Kytömaa HK. Particle stress and viscous compaction during shear of dense suspensions. Int J Multiphase Flow 1995; 21(5):775-785.

Kytömaa HK. Theory of sound propagation in suspensions: A guide to particle size and concentration characterization. Powder Technol 1995; 82(1):115-121.

Prasad D, Kytömaa HK. Particle stress and viscous compaction. Liquid-Solid Flows 1994; 189:137-144. Presented At The 1994 ASME Fluids Engineering Division Summer Meeting, Lake Tahoe, Nevada, June 19 23, 1994 (Fluid Engineering Division Conference).

Derksen JS, Kytömaa HK. Acoustic properties of solid-liquid mixtures in the inertial regime: Determination of the added mass coefficient. Liquid-Solid Flows, 1994: 189: 75-81. Presented At The 1994 ASME Fluids Engineering Division Summer Meeting, Lake Tahoe, Nevada, June 19 23, 1994 (Fluid Engineering Division Conference).

Kytömaa HK, Peterson C, McClintock F, Schiaffino S. Fluidization and segregation in bi-disperse solid-liquid particulate systems. Proceedings, 11th Symposium on Energy Engineering Sciences, pp. 48-55, May 3-5, 1993.

Schmid PJ, Kytömaa HK. Stability analysis of unbounded uniform granular shear flow. J Fluid Mech 1994; 264:255-275.

Kytömaa HK, Corrington SW. Ultrasonic imaging velocimetry of transient liquefaction of cohesionless

particulate media. Int J Multiphase Flow 1994; 20(5):915-926.

Solomon SD, Kytömaa HK, Celi AC, Maas LC, Chou J, Hopkins E, Caguioa E, Lee RT. Myocardial tissue characterization by autocorrelation of two-dimensional ultrasonic backscatter. J Am Soc Echocardio 1994; 7(6):631-640.

Kytömaa HK, Weselake K. Current distribution and finite element mesh selection for electrical impedance tomography. Comp Mech: Int J 1994; 15(2):161-172.

Kytömaa HK. Poudres & Grains, A.E.M.M.G. Association pour l'Etude de la Micromecanique des Milieux Granulaires, N ° 5 - Mars-Avril, 1994.

Kytömaa HK, Prasad D. The transition from frictional domination to the viscous flow regime. pp. 281-287. In: Powders and Grains, Volume 93. Thornton C (ed), Balkema, Rotterdam, 1993.

Schiaffino S, Kytömaa HK. Steady fluidization of fine particles in a fixed bed of coarse particles. Powder Technol 1993; 77:291-299.

Atkinson CM, Kytömaa HK. Acoustic properties of solid-liquid mixtures and the limits of ultrasound diagnostics — I: Experiments. Journal of Fluids Engineering 1993; 115(4):665-675.

Kytömaa HK, Atkinson CM. Sound propagation in suspensions and acoustic imaging of their microstructure. Mech Mater 1993; 16:189-197.

Atkinson CM, Kytömaa HK. Acoustic wave speed and attenuation in suspensions. Int J Multiphase Flows 1992; 18(4):577-592.

Kytömaa HK, Schmid PJ. On the collision of rigid spheres in a weakly compressible fluid. Phys Fluids 1992; A (12):2683-2689.

Kandlikar SG, Pisera J, Kytömaa HK, Thome RJ. Heat transfer and pressure drop characteristics of magnet winding during cooldown with flow boiling of LN2. Experimental Heat Transfer, Fluid Mechanics and Thermodynamics, 1991.

Kytömaa HK, Brennen CE. Small amplitude kinematic wave propagation in two-component media. Int J Multiphase Flows 1991; 17(1):13-26.

Kytömaa HK. Viscous particle interactions and their effect on kinematic wave propagation. Chem Engin Commun 1991; 105:27-41.

Kytömaa HK. Effects of internal reordering on sedimentation waves in concentrated incompressible suspensions. Fluid/Particle Separation J 1991; (4)1:37-46.

Geschwindt JR, Kytömaa HK. Design of the cooling system for the compact ignited Tokamak central solenoid. Adv Cryogen Engin 1990; 35B:957.

Kytömaa HK. Propagation and structure of solidification waves in concentrated suspensions. Mech Mater 1990; 9(3):205-215.

Kytömaa HK, Brennen CE. Some observations of flow patterns and statistical properties of three component flows. J. Fluids Eng. 1988; 110(1):76-84.

Television Appearances

Kytömaa HK. The Cleveland 1944 accident: History's worst liquefied natural gas (LNG) accident. Modern Marvels: Engineering Disasters 11, The History Channel, October 26, 2004.

Webinars

Morse, T, Barry, M, Colella, F, Natarajan, S, Kytömaa, H. Caution: HOT! Understanding and Investigating Burn Injuries. Exponent Live August 13, 2020.

Kytömaa, HK, Colella, F., Current Trends in the Global LNG Industry. AIJA International Association of Young Lawyers. November 2019.

Kytömaa, HK. Advances in Managing Climate and Extreme Weather Even Risks and Liabilities for Industrial Infrastructure and Operations. Exponent Webinar. February 2019.

Keynote Addresses

Kytömaa, HK. Natural Gas and LNG Industry: Its Growth and Future Challenges. American Institute of Chemical Engineers 2020 Virtual Spring Meeting and 16th Global Congress on Progress Safety. Topical Conference on Gas Utilization. August 18, 2020.

Kytömaa HK. The past, present and future of LNG. American Institute of Chemical Engineers 2014 Spring National Meeting, 10th Global Congress on Process Safety. Topical Conference on Gas Utilization, New Orleans, LA, March 30-April 3, 2014.

Kytömaa HK. Modeling and simulation in the USA. Keynote address, MASI Conference on Modeling and Simulation, Jyväskylä, Finland, May 9, 2006.

Book Chapters

Bamberger J, Kytömaa HK, Greenwood MS. Slurry ultrasonic particle size and concentration characterization. pp 485-495, Science and Technology for Disposal of Radioactive Tank Wastes. Schulz WW, Lombardo NJ (eds), Springer Science+Business Media, New York, NY, 1998.

Kytömaa HK, Liquefaction and solidification. Chapter 24. pp. 861-883. Particulate Two-Phase Flows. Roco M (ed). Butterworth-Heinemann, Stoneham, MA, 1992.

Conference Presentations, Proceedings and Invited Lectures

Kytömaa, H. and Banning, M. "Extreme weather risks to infrastructure." Ship.Energy Summit 2021. 7-8 September 2021.

Colella, F. Vytiniotis, A., Reilly, E., Kytömaa H., Integrity and Asset Management of LNG Tanks – Lesson Learned from Failures, Gastech Virtual Summary, September 2020.

Yen M, Colella F, Kytömaa H, Allin B, Ockfen A, "Contact Burn Injuries Part I: The influence of object thermal mass", Proceedings of the 2020 IEEE Symposium on Product Compliance Engineering (SPCE 2020), November 2020, Portland, WA.

Yen M, Colella F, Kytömaa H, Allin B, Ockfen A, "Contact Burn Injuries Part II: The influence of object shape, size, contact resistance, and applied heat flux", Proceedings of the 2020 IEEE Symposium on Product Compliance Engineering (SPCE 2020), November 2020, Portland, WA.

Stern M, Oelker A., Parker S., Kytömaa H, Krill M. Patentable or Infringing? An Overview of Patent Infringement and Validity Concepts for Researchers and Innovators. American Institute of Chemical Engineers 2020 Virtual Spring Meeting and 16th Global Congress on Progress Safety. August, 2020.

Yen M, Colella F, Kytömaa H, Allin B, Ockfen A, "The influence of object thermal mass on temperature thresholds for contact burns". Proceedings of the 2020 IEEE International Symposium on Product

Compliance Engineering (ISPCE 2020) May 2020, Chicago, IL.

Kytömaa, HK. Panel Presentation on Litigation Risk and Exposure from Extreme Climate Events: Presented at the 18th Annual Energy Litigation Conference. Houston, TX. November, 2019

Vytiniotis, A, Colella, F, Budiansky, N., Kytömaa, H. Lessons Learned - Investigating failures of LNG containment systems. Gastech Power & Energy 2019. Houston, TX. September 2019

Kytömaa, HK, Boehm, P, Osteraas, J, Haddad, B, Hacker, J, Gilman, L, Jampole, E, Murphy, P, Souri, S. A Non-Stationary Approach to Conducting Site-Specific Integrative Risk Management Assessments at Industrial Facilities at Risk from Extreme Weather Events. American Institute of Chemical Engineers 2019 Spring Meeting and 15th Global Congress on Process Safety. New Orleans, LA. April 2019.

Kytömaa, HK. Buncefield Explosion. Invited Lecturer. Massachusetts Institute of Technology. Integrated Chemical Engineering, Course 10.490. November 2019.

Kytömaa, HK and Colella, F. Understanding and Investigating Burn Injuries. Mechanical Engineering Industry Seminar Speaker. University of Washington. December 2018.

Kytömaa, H., Barry, M., Colella, F., Natarajan, S., Lee, K., Morse, T., Investigating Burn Injuries, AEGIS 2018 Claims Seminar, October 2018.

Kytömaa, H., Barry, M., Colella, F., Natarajan, S., Lee, K., Morse, T., Investigating Burn Injuries, DRI - Fire Science and Litigation: Burning down the House, September 2018.

Marr, KC, Ponchaut, NF, Kytömaa HK. Monte Carlo analysis of hazardous air pollutant emissions from industrial flares. Air and Waste Management Association, 108th annual conference & exhibition, Raleigh, NC, June 2015.

Ponchaut NF, Kytömaa HK. Planning early for compressor surge avoidance. AIChE Spring Meeting, 15th Topical Conference on Gas Utilization, Austin, TX, April 2015.

Ponchaut NF, Ibarreta A, Kytömaa HK. LNG spills on water: a comparison of the shallow water model to experiments. AIChE Spring Meeting, 15th Topical Conference on Gas Utilization, Austin, TX, April 2015.

Morse T, Ellison A, Kytömaa HK. Electrical fault damage to corrugated stainless steel tubing in a house fire. International Symposium of Fire Investigation Science and Technology, College Park, MD, 2014.

Marr KC, Ponchaut NF, Kytömaa HK. Emissions estimation methodologies for industrial flares. AFRC 2014 Industrial Combustion Symposium. Houston, TX, September 2014.

Colella F, Ibarreta A, Ponchaut NF, Kytömaa HK. Effectiveness of vapor fences in mitigating LNG jetting and flashing releases. American Institute of Chemical Engineers 2014 Spring National Meeting, 14th Topical Conference on Gas Utilization, New Orleans, LA, March 30-April 3, 2014.

Ibarreta A, Hart RJ, Ponchaut NF, Morrison D, Kytömaa HK. How does concrete affect evaporation of cryogenic liquids: evaluating LNG plant safety. ASME 2013 International Mechanical Engineering Congress & Exposition (IMECE 2013), San Diego, CA, November 2013.

Morrison DR, Kytömaa HK. Evaluating risk management and reliability for safe, continuous and efficient LNG operations. Workshop at the 8th Annual LNG Tech Global Summit, Barcelona, Spain, October 14-16, 2013.

Colella F, Ibarreta A, Ponchaut NF, Kytömaa HK. Numerical analysis of dense gas dispersion: Effect of staggered fences. Mary Kay O'Connor Process Safety Center. 2013 International Symposium, College Station, TX, October 2013.

Marr KC, Ponchaut NF, Kytömaa HK. Analysis of combustion efficiencies for industrial steam-assisted flares. AFRC 2013 Industrial Combustion System, Koloa, HI, September 2013.

Ibarreta AF, Hart RJ, Morrison DR, Kytömaa HK. A view of the evolving LNG regulations and associated exclusion zones from an industry perspective. American Institute of Chemical Engineers 2013 Spring National Meeting, 13th Topical Conference on Gas Utilization, San Antonio, TX, April 28-May 2, 2013.

McInerney E, Hart R, Morrison DR, Kytömaa HK. New quantitative risk criteria for U.S. LNG facilities. American Institute of Chemical Engineers 2013 Spring National Meeting, 47th Loss Prevention Symposium, San Antonio, TX, April 28-May 2, 2013.

Hart RJ, Morrison DR, Ibarreta AF, Kytömaa HK. Guidelines for relative hazard ranking of refrigerants and siting considerations for LNG liquefaction units. American Institute of Chemical Engineers 2013 Spring National Meeting, 13th Topical Conference on Gas Utilization, San Antonio, TX, April 28-May 2, 2013.

Morrison DR, Kytömaa HK. Performing LNG hazard and consequence analysis. Workshop at the 7th Annual LNGTech Global Summit, Rotterdam, The Netherlands, December 3-5, 2012.

Morrison DR, Hart RJ, Kytömaa HK. Guidelines for jetting and flashing LNG vapor exclusion zone analysis. American Institute of Chemical Engineers, 2012 Spring National Meeting, LNG Plant Safety and Protection Session, Houston, TX, April 1-5, 2012.

Ellison AD, Morse TL, Kytömaa HK. Lightning related structure fires. International Symposium on Fire Investigation Science and Technology, University of Maryland, October 2012.

Morse TL, Ibarreta AF, Kytömaa HK. Explosions in transformer tanks due to arcing events. AIChE Spring Meeting, 8th Global Congress on Process Safety, Houston, TX, April 2012.

Morrison DR, Hart RJ, Kytömaa HK. Guidelines for jetting and flashing LNG vapor exclusion zone analysis. American Institute of Chemical Engineers, 2012 Spring National Meeting, LNG Plant Safety and Protection Session, Houston, TX, April 1-5, 2012.

Ponchaut NF, Kytömaa HK, DesAutels C, Kaganoi S, Becu O, Cardiff G. Modeling of ground flare pits. American Institute of Chemical Engineers, 2012 Spring National Meeting, 12th Topical Conference on Gas Utilization, Houston, TX, April 1-5, 2012.

Ponchaut NF, Ibarreta A, Kytömaa HK. Modeling of LNG spills into trenches and troughs. American Institute of Chemical Engineers, 2012 Spring National Meeting, 12th Topical Conference on Gas Utilization, Houston, TX, April 1-5, 2012.

Ponchaut NF, Kytömaa HK, Ibarreta AF. Modeling the vapor source associated with spills of LNG into troughs and trenches. AIChE Spring National Meeting, 11th Topical Conference on Gas Utilization, Chicago, IL, March 2011.

Kytömaa HK. Lessons learned from past major losses and possible future strategies: Buncefield. The SPE International Conference on Health Safety and Environment in Oil and Gas Exploration and Production, Rio de Janeiro, Brazil, April 12-14, 2010.

Ponchaut NF, Kytömaa HK, Morrison DR, Chernovsky MK. Modeling the vapor source associated with the spill of LNG into a sump or an impoundment area. Mary Kay O'Connor Process Safety Center. 2010 International Symposium, College Station, TX, October 2010.

Kytömaa HK, Ibarreta A, Loud J. Char depth mapping of floor structure to determine fire origin. Proceedings, International Symposium on Fire Investigation Science and Technology, Hyattsville, MD, 2010.

Morse TL, Kytömaa HK. Variations in the evaporation rate of a cryogenic liquid on a water surface. Mary Kay O'Connor Process Safety Center 2010 International Symposium, College Station, TX, October 2010.

Ponchaut NF, Kytömaa HK. Cooldown of large pipes during the commissioning phase of cryogenic facilities. AIChE Spring Meeting, 10th Topical Conference on Natural Gas Utilization, San Antonio, TX, March 2010.

Myers TJ, Kytömaa HK, Ibarreta AF, Ponchaut NF. Analyzing historic process data to identify near misses and warning signs: Examples from the Buncefield incident. AIChE Spring Meeting, 6th Global Congress on Process Safety, San Antonio, TX, March 2010.

Kytömaa HK, Myers TJ, Ibarreta AF, Ponchaut NF. Using real time process models to detect loss of containment and mitigate hazards. AIChE Spring Meeting, 6th Global Congress on Process Safety, San Antonio, TX, March 2010.

Morse TL, Kytömaa HK. The effect of turbulence on the evaporation of cryogenic liquid spills on water. AIChE Spring Meeting, 10th Topical Conference on Natural Gas Utilization, San Antonio, TX, March 2010.

Kytömaa HK. CO poisoning. PA Defense Counsel (PADC), September 2009.

Ponchaut NF, Kytömaa HK. Transient spreading of LNG on water. Mary Kay O'Connor Process Safety Center. 2009 International Symposium, College Station, TX, October 2009.

Kytömaa HK, Myers TJ, Ibarreta AF, Ponchaut NF. Anatomy of the failures that led to the Buncefield explosion and fire. Proceedings, 2009 Mary Kay O'Connor Process Safety Center International Symposium, College Station, TX, October 2009.

Kytömaa HK. Carbon monoxide poisoning. Massachusetts Defense Lawyers Association, May 2009.

Ponchaut NF, Chernovsky M, Gavelli F, Kytömaa HK. Modeling the spreading of large LNG spills on water. AIChE Spring Meeting, 9th Topical Conference on Natural Gas Utilization, Tampa, FL, April 2009.

Gavelli F, Chernovsky M, and Kytömaa HK. The effect of substrate on LNG vapor dispersion from an impounded area. AIChE Spring Meeting, 9th Topical Conference on Natural Gas Utilization, Tampa, FL, April 2009.

Myers TJ, Kytömaa HK, Ponchaut NF and Ibarreta AF. Lessons learned from the Buncefield Fuel Depot explosion. AIChE Spring Meeting & 5th Global Congress on Process Safety, Tampa, FL, April 2009.

F. Gavelli, M. Chernovsky, H. Kytömaa. Quantification of source-level turbulence during LNG spills onto a water pond. Proceedings, Mary Kay O'Connor Process Safety Center Symposium, College Station, TX, 2008.

Myers TJ, Long RT, Gavelli F, Kytömaa HK. The use of smoke detector sequence of activation in determining the area of origin of a fire: investigation of the FedEx DC-10 fire. Proceedings, International Symposium on Fire Investigation Science and Technology, Cincinnati, OH, 2008.

Myers TJ, Hinze PC, Kytömaa HK. Fire and explosion in an explosives conditioning bunker. Proceedings, 42nd Annual Loss Prevention Symposium, American Institute of Chemical Engineers Spring National Meeting, New Orleans, LA, 2008.

Gavelli F, Chernovsky MK, Kytömaa HK. LNG pool fire models: Similarities and differences I. Proceedings, 4th Global Congress on Process Safety, American Institute of Chemical Engineers Spring National Meeting, New Orleans, LA, 2008.

Kytömaa HK, Chernovsky M, Gavelli F. A new experimental study on the spreading of liquid nitrogen over water. Offshore Technology Conference, Houston, TX, May 2008.

Kytömaa HK. Catastrophic incidents: Learning from the past to prevent in the future, early detection of loss of containment. Society of Petroleum Engineers, Health and Safety Conference, Nice France, April 15, 2008.

Kytömaa HK. LNG pool spreading. LNG Safety Workshop, LNG Tech Global Summit 2007, Rotterdam, Netherlands, September 10, 2007.

Kytömaa HK. LNG release from a vessel. Mary Kay O'Connor Process Safety Center: CLNG Workshop at the Hamilton Crowne Plaza, Washington, DC, June 12-13, 2007.

Gavelli F, Chernovsky MK, Bullister E, Kytömaa HK. Validation of a CFD model for vapor dispersion from LNG spills into an impoundment. American Institute of Chemical Engineers Spring National Meeting, Houston, TX, April 2007.

Kytömaa HK. LNG hazards for offshore and onshore LNG receiving terminals. Invited speaker/faculty member, LNG Development in the Northeast, Boston MA, December 5, 2006.

Gavelli F, Bullister E, Kytömaa HK. Application of the fluent model to LNG spills over water. The Status of CFD Models for LNG Exclusion Zones. Gas Technology Institute Seminar Houston, TX, September 13, 2006.

Gavelli F, Bullister E, Kytömaa HK. Applications of CFD (Fluent) to LNG spills into geometrically complex environments. Proceedings, 2006 Mary Kay O'Connor Process Safety Center International Symposium, pp. 468□485, 2006.

Grossman HL, Ray RM, Zhao K, Kytömaa HK. Analysis of garage fires, Paper 2006-01-0791, SAE World Congress, Detroit, MI, April 3-6, 2006.

Kytömaa HK, Gavelli F. Rangwala A. Leakage of liquid from a cryogenic container. LNG: The Environmental and Safety Agenda Operations/Emergency Preparedness and Response AIChE Meeting, Vancouver, BC, September 13, 2005.

Kytömaa HK. Risks and common misconceptions associated with LNG. Breakfast Seminar, the Downtown Club at Plaza, Houston, TX, May 25, 2005.

Gavelli F, Foulds J, Sire R, Kytömaa HK. Root cause analysis of a gas turbine compressor stator blade failure. ASME Power Conference, Chicago, IL, 2005.

Myers TJ, Kytömaa HK, Smith TR. Environmental stress-corrosion cracking of fiberglass: Lessons learned from failures at small chemical facilities. Proceedings, Mary Kay O'Connor Process Safety Center Symposium, College Station, TX, 2005.

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