

# CURRICULUM VITAE

**GODWIN F.K. TAY**

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## PERSONAL INFORMATION

Citizenship: Ghana

## EDUCATION

Ph.D., Mechanical Engineering (October 2015)  
University of Manitoba, Winnipeg, Canada  
Advisors: Professor David Kuhn & Professor Mark Tachie  
Thesis Title: Particle-Induced Turbulence Modification in the Presence of  
a Rough Wall

M.Sc., Mechanical Engineering (May 2009)  
University of Manitoba, Winnipeg, Canada  
Advisors: Professor David Kuhn & Professor Mark Tachie  
Thesis Title: Rough-Wall Turbulent Flows in Adverse and Favourable  
Pressure Gradients

B.Sc., Mechanical Engineering (June 2005)  
Kwame Nkrumah University of Science and Technology, Ghana  
Advisor: Dr. Lawrence Ansong

## AWARDS

University of Manitoba Graduate Fellowship, Spring 2012  
Manitoba Graduate Scholarship, Spring 2012

## RESEARCH EXPERIENCE

Post-Doctoral Research Associate (2015-2019)  
University of Manitoba, Winnipeg, Canada  
Advisor: Dr. Mark Tachie

Graduate Research Assistant (2010-2015)  
PIV Flow Measurement Lab., University of Manitoba  
Advisors: Dr. Mark Tachie & Dr. David Kuhn

Graduate Research Assistant (2007-2009)  
PIV Flow Measurement Lab., University of Manitoba  
Advisors: Dr. Mark Tachie & Dr. David Kuhn

## REFEREED PUBLICATIONS

1. **Tay, G.F.K.**, Kuhn, D.C.S., and Tachie, M.F., 2015, "Effects of Sedimenting Particles on the Turbulence Structure in a Horizontal Channel Flow," *Physics of Fluids*, **27**, 025106 (30 pages).
2. **Tay, G.F.K.**, Kuhn, D.C.S., and Tachie, M.F., 2013, "Surface Roughness Effects on the Turbulence Statistics in a Low Reynolds Number Channel Flow," *Journal of Turbulence*, **14** (1), pp. 121-146.
3. **Tay, G.F.K.**, Kuhn, D.C.S., and Tachie, M.F., 2009, "Influence of Adverse Pressure Gradient on Rough-Wall Turbulent Flows," *International Journal of Heat and Fluid Flow*, **30**, pp. 249-265.
4. **Tay, G.F.K.**, Kuhn, D.C.S., and Tachie, M.F., 2009, "Particle Image Velocimetry Study of Rough-Wall Turbulent Flows in Favourable Pressure Gradient," *Journal of Fluids Engineering*, **131**, 061205 (12 pages).
5. **Tay, G.F.K.**, Mishra, A., Kuhn, D.C.S., and Tachie, M.F., 2017, "Free Surface Effects on the Statistical Properties of a Submerged Rectangular Jet," *Physics of Fluids*, **29**, 025101 (17 pages)
6. **Tay, G.F.K.**, Rahman, M.S., and Tachie, M.F., 2017, "Characteristics of a Horizontal Square Jet Interacting with the Free Surface," *Physical Review Fluids*, **2**(6), 064607 (24 pages)
7. Rahman, M.S., **Tay, G.F.K.**, Essel, E.E., and Tachie, M.F., 2018, "Effects of Offset Height on the Turbulent Characteristics of a Surface Attaching Jet," *International Journal of Heat and Fluid Flow*, **71**, pp. 305-321.
8. Rahman, M.S., **Tay, G.F.K.**, and Tachie, M.F., 2019, "Effects of Nozzle Geometry on the Turbulent Characteristics and Structure of Surface Attaching Jets," *Flow, Turbulence and Combustion* (29 pages).

#### CONFERENCE PAPERS

1. **Tay, G.F.K.**, Kuhn, D.C.S., and Tachie, M.F., 2013, "Turbulence Modification by Particles in a Horizontal Channel Flow," *Proceedings of the 8th International Symposium on Turbulence and Shear Flow Phenomena*, August 29-31, Poitiers, France.
2. **Tay, G.F.K.**, Kuhn, D.C.S., and Tachie, M.F., 2013, "Particle-Turbulence Interactions in the Presence of a Rough Wall," *Proceedings of the 8th International Symposium on Turbulence and Shear Flow Phenomena*, August 29-31, Poitiers, France.
3. **Tay, G.F.K.**, Kuhn, D.C.S., and Tachie, M.F., 2012, "Turbulence in a Channel with 3D Roughness on One Wall," *CSME International Congress*, June 4-6, Winnipeg, Canada.

4. **Tay, G.F.K.**, Kuhn, D.C.S., and Tachie, M.F., 2009, "Adverse and Favourable Gradient Turbulent Flows over Smooth and Rough Surfaces," *39th AIAA Fluid Dynamics Conference and Exhibit*, San Antonio, Texas.

#### COMPUTER SKILLS

Programming: C/C#/C++, FORTRAN, MATLAB, PYTHON, MPI, GPU

Engineering: OriginPro, Tecplot, DynamicStudio

Miscellaneous: Windows, Unix/Linux, Microsoft Visual Studio