

Dr Neil Cagney
PhD

School of Engineering and Materials Science
Queen Mary University of London
Mile End Road
London E1 4NS

tel: +44(0)20 7882 8942
email: n.cagney@qmul.ac.uk web: www.sems.qmul.ac.uk/n.cagney

2025

Energy extraction from a pitching airfoil.

Pervaiz F and Cagney N. *Physics of Fluids* vol. 37, (4).Aip Publishing.

Membrane fouling during the harvesting of microalgae using static microfiltration.

Wu J, Meeten GH, Jones TGJ, Cagney N and Boek ES. *Separation and Purification Technology* vol. 353,.Elsevier.

2024

Elastically modulated wavy vortex flow.

Boulafentis T, Lacassagne T, Cagney N and Balabani S. *Journal of Non-Newtonian Fluid Mechanics* vol. 330,. Elsevier.

Coherent structures of elastoinertial instabilities in TaylorCouette flows.

Boulafentis T, Lacassagne T, Cagney N and Balabani S. *Journal of Fluid Mechanics* vol. 986,.Cambridge University Press (Cup).

Jetting and droplet formation of particle-loaded fluids.

Shi J, Cagney N, Tatum J, Condie A and Castrejón-Pita JR. *Physics of Fluids* vol. 36, (1).Aip Publishing.

2023

Elasto inertia transitions in Taylor Couette flows.

Lacassagne T, Cagney N, Boulafentis T and Balabani S. *Science Talks* vol. 5, (Phys. Rev. Fluids 5).Elsevier.

Experimental insights into elasto-inertial transitions in Taylor-Couette flows.

Boulafentis T, Lacassagne T, Cagney N and Balabani S. *Philosophical Transactions of The Royal Society a: Mathematical, Physical and Engineering Sciences* vol. 381, (2243).The Royal Society.

2022

Flow dynamics and mixing past pairs of confined microfluidic cylinders.

Zhang S, Han Y, Lacassagne T, Cagney N, Naveira-Cotta CP, Balabani S and Tiwari MK. *Chemical Engineering Science* vol. 267,.Elsevier.

2021

Modulation of elasto-inertial transitions in TaylorCouette flow by small particles.

Lacassagne T, Boulafentis T, Cagney N and Balabani S. *Journal of Fluid Mechanics* vol. 929, r2-r2.

Fallow time determination in dentistry using aerosol measurement in mechanically and non-mechanically ventilated environments.

Shahdad S, Hindocha A, Patel T, Cagney N, Mueller JD, Koched A, Seoudi N, Morgan C, Fleming PS and Din AR. *British Dental Journal (Bdj).Springer Nature [Academic Journals On Nature.Com]*.

Shear-thinning mediation of elasto-inertial Taylor-Couette flow.

Lacassagne T, Cagney N and Balabani S. *Journal of Fluid Mechanics* vol. 915,.

2020

Vortex merging and splitting: A route to elastoinertial turbulence in Taylor-Couette flow.

Lacassagne T, Cagney N, Gillissen JJJ and Balabani S. *Physical Review Fluids* vol. 5, (11).American Physical Society.

Quantitative analysis of particulate matter release during orthodontic procedures: a pilot study.

Din AR, Hindocha A, Patel T, Sudarshan S, Cagney N, Koched A, Mueller J-D, Seoudi N, Morgan C, Shahdad S and Fleming PS. *British Dental Journal* 1-7.Springer Nature.

Taylor-Couette flow of polymer solutions with shear-thinning and viscoelastic rheology.

Cagney N, Lacassagne T and Balabani S. *Journal of Fluid Mechanics*.Cambridge University Press (Cup).

Correction to: The efficacy of an extraoral scavenging device on reduction of splatter contamination during dental aerosol generating procedures: an exploratory study.

Shahdad S, Patel T, Hindocha A, Cagney N, Mueller J-D, Seoudi N, Morgan C and Din A. *Br Dent J*.

The efficacy of an extraoral scavenging device on reduction of splatter contamination during dental aerosol generating procedures: an exploratory study.

Shahdad S, Patel T, Hindocha A, Cagney N, Mueller JD, Seoudi N, Morgan C and Din A. *British Dental Journal (Bdj)*. Springer Nature [Academic Journals On Nature.Com].

Taylor-Couette instability in disk suspensions: Experimental observation and theory.

Gillissen JJJ, Cagney N, Lacassagne T, Papadopoulou A, Balabani S and Wilson HJ. *Physical Review Fluids* vol. 5, (8).American Physical Society.

Mixing in flows past confined microfluidic cylinders: Effects of pin and fluid interface offsetting.

Zhang S, Cagney N, Lacassagne T, Balabani S, Naveira-Cotta CP and Tiwari MK. *Chemical Engineering Journal* vol. 397,.Elsevier.

Effect of mixed convection on laminar vortex breakdown in a cylindrical enclosure with a rotating bottom plate.

Quaresma JNN, da Cruz CCS, Cagney N, Cotta RM and Balabani S. *International Journal of Thermal Sciences*. Elsevier.

2019

The coupled effects of mantle mixing and a water-dependent viscosity on the surface ocean.

Chotalia K, Cagney N, Lithgow-Bertelloni C and Brodholt J. *Earth and Planetary Science Letters*.Elsevier.

Probing vortex-shedding at high frequencies in flows past confined microfluidic cylinders using high-speed microscale particle image velocimetry.

Zhang S, Cagney N, Balabani S, Naveira-Cotta CP and Tiwari MK. *Physics of Fluids* vol. 31, (10).Aip Publishing.

Taylor-Couette flow of shear-thinning fluids.

Cagney N and Balabani S. *Physics of Fluids* vol. 31, (5).

Influence of shearthinning rheology on the mixing dynamics in TaylorCouette flow.

Cagney N and Balabani S. *Chemical Engineering & Technology*.Wiley.

The role of the separation point in streamwise vortex-induced vibrations.

Cagney N and Balabani S. *Journal of Fluids and Structures* vol. 86, 316-328.

2018

Mode decomposition and Lagrangian structures of the flow dynamics in orbitally shaken bioreactors.

Weheliye WH, Cagney N, Rodriguez G, Micheletti M and Ducci A. *Physics of Fluids* vol. 30, (3).

2017

Effects of cell motility and morphology on the rheology of algae suspensions.

Cagney N, Zhang T, Bransgrove R, Allen MJ and Balabani S. *Journal of Applied Phycology* vol. 29, (3) 1145-1157.

2016

Fluid forces acting on a cylinder undergoing streamwise vortex-induced vibrations.

Cagney N and Balabani S. *Journal of Fluids and Structures* vol. 62, 147-155.

Lagrangian structures and mixing in the wake of a streamwise oscillating cylinder.

Cagney N and Balabani S. *Physics of Fluids* vol. 28, (4).

Dynamics and excess temperature of a plume throughout its life cycle.

Cagney N and Lithgow-Bertelloni C. *Geophysical Journal International* vol. 205, (3) 1574-1588. Oxford University Press (Oup).

Constraining the source of mantle plumes.

Cagney N, Cramer F, Newsome WH, Lithgow-Bertelloni C, Cotel A, Hart SR and Whitehead JA. *Earth and Planetary Science Letters* vol. 435, 55-63. Elsevier.

2015

Swirl flow bioreactor containing dendritic copper-containing alginate beads: A potential rapid method for the eradication of Escherichia coli from waste water streams.

Thomas SF, Rooks P, Rudin F, Cagney N, Balabani S, Atkinson S, Goddard P, Bransgrove RM, Mason PT and Allen MJ. *Journal of Water Process Engineering* vol. 5, 6-14. Elsevier.

Temperature and velocity measurements of a rising thermal plume.

Cagney N, Newsome WH, Lithgow Bertelloni C, Cotel A, Hart SR and Whitehead JA. *Geochemistry Geophysics Geosystems* vol. 16, (3) 579-599. American Geophysical Union (Agu).

2014

Streamwise vortex-induced vibrations of cylinders with one and two degrees of freedom.

Cagney N and Balabani S. *Journal of Fluid Mechanics* vol. 758, 702-727. Cambridge University Press (Cup).

2013

Mode competition in streamwise-only vortex induced vibrations.

Cagney N and Balabani S. *Journal of Fluids and Structures* vol. 41, 156-165. Elsevier.

On multiple manifestations of the second response branch in streamwise vortex-induced vibrations.

Cagney N and Balabani S. *Physics of Fluids* vol. 25, (7). Aip Publishing.

Wake modes of a cylinder undergoing free streamwise vortex-induced vibrations.

Cagney N and Balabani S. *Journal of Fluids and Structures* vol. 38, 127-145. Elsevier.