

CURRICULUM VITAE

PERSONAL DETAILS

Name: Dubravka Pokrajac, MEng, MSc, PhD
Date of birth: 2 March 1958
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HIGHER EDUCATION AND QUALIFICATIONS

1982 BSc (Civil with major in Hydraulics), 1st Class honours, Faculty of Civil Engineering, University of Belgrade, Yugoslavia. Five year full-time course with 36 exams. The highest average mark in a class of 70 students. Two prizes awarded by the University Council.

1987 MSc (Civil Engineering and Hydraulics), 1st class, Faculty of Civil Engineering, University of Belgrade, Yugoslavia. Two-year part-time course with 9 exams. Thesis: *A model of transient two-dimensional saturated-unsaturated soil water flow*.

1997 PhD, Faculty of Civil Engineering, University of Belgrade, Yugoslavia. Thesis: *Transport of Pollution by Groundwater*.

EMPLOYMENT HISTORY

1998 – present School of Engineering, College of Physical Sciences, University of Aberdeen
Professor (2014), **Reader** (2011), **Senior Lecturer** (2005), **Lecturer** (1998)
Teaching: Reservoir Simulations (level 5, MSc petroleum), Numerical Simulation of Waves (level 5, all), Geotechnics 2 (level 4, civil), Fluid Mechanics (level 2, all), Surveying Field Course (level 3, civil).
Research in fluid mechanics: surface/subsurface interactions in fluvial and coastal environments, rough turbulent boundary layer flows, porous media flows, double-averaging methodology, integrated management of urban water systems, pipe flows.

1982 – 1998 Department of Hydraulic Engineering, University of Belgrade, Yugoslavia
Senior Lecturer (1998), **Lecturer** (1989), **Teaching and Research Assistant**
Teaching primarily in the area of engineering hydraulics and computational hydraulics. Research in groundwater and soil water modelling.

EXTERNALLY FUNDED GRANTS

Major research grants

1. Stream-aquifer interactions and their influence on flow regimes and fluvial processes in ephemeral streams, United Utilities Water PLC, **£140k, 2017-2022**, Co-I with J.C. Comte (PI) .
 2. *Modelling hyporheic exchange flows of natural streams in Palestine, Israel and the UK*, **British Council, £100k, 2016 – 2018**, PI, collaboration with Prof. Uri Shavit from Technion-IIT/Faculty of Civil and Environmental Engineering, Haifa, Israel, and Dr Amer Marei from Al Quds University (AQU), East Jerusalem/Faculty of Science and Technology.
- *Flood MEMORY: Multi-Event Modelling Of Risk & recovery*, **EPSRC, £1,900k/£214k** for Aberdeen, **2012–2016** (EP/K013513/1), PI for Aberdeen, collaboration with Professor Christopher Kilsby (PI) and

Dr Qiuhua Liang, Newcastle University, Dr Riccardo Briganti, University of Nottingham, Dr Harshinie Karunaratna, Swansea University, Prof. Christian Beck, Queen Mary University, Dr Heather Haynes, Heriot-Watt University, Prof. Sue White, Cranfield University, Dr Jessica Lamond, University of the West of England, Dr Jennifer Brown, National Oceanography Centre.

- *Fundamental study of migration of supercritical CO₂ in porous media under conditions of saline aquifers*, **EPSRC, £486k/£89k** for Aberdeen, **2011–2013** (EP/I010971/1), PI for Aberdeen, collaboration with Prof. S. He (PI), University of Sheffield, Prof. B.W.D. Yardley, University of Leeds, Prof. Peixue Jiang & Ruina Xu, Tsinghua University, China.
- *Turbulence and wall shear stress in unsteady internal flows with rough surfaces*, **EPSRC, £340k, 2009–2012**. (EP/GO68925/1). Co-I with Prof. T. O'Donoghue as PI. Collaboration with Prof. S. He, University of Sheffield and Prof. A. Vardy, University of Dundee.
- *Experimental and Numerical Modelling Study of Swash Zone Hydrodynamics and Sediment Transport*. **EPSRC, £285k, 2007–2010**. (EP/E0113301). Co-I with Prof. T. O'Donoghue as PI. Collaboration with Prof. Dodd, University of Nottingham.
- *Telepath™ – a new non-invasive approach to locating leaks in subsea umbilicals*, **Knowledge Transfer Partnership – Department of Trade and Industry and Brinker Technology, £113, 2007–2009**. (KTP006596) PI with S. He as Co-I.
- *Increasing fluid-carrying capacity of urban ducts, culverts and small streams*, **Scottish Enterprise Proof of Concept, £187k, 2005–2007**. PI with I. McEwan, Prof. C. Soulsby and C. Gibbins as Co-Is.
- *Spatially-averaged flow over rough boundaries: a means of determining fluid friction from surface topography*, **EPSRC, £238k, 2001–2005**. (GR/R51865/01) Co-I with I. McEwan as PI. Collaboration with Dr Vladimir Nikora from NIWA New Zealand.
- *Towards sustainable urban groundwater management*, **UNESCO, £48k, 2002–2007**, PI.

Major equipment grants

- *MicroCT scanner XRadia 410*, **OGAS (Oil and Gas Academy of Scotland), £750k, 2014**, PI.
- *MicroCT scanner Nikon*, **NERC, £350k, 2015**, Co-I.

Overseas projects (role of collaborator)

3. *Effects of air entrainment and swash-swash interactions on the swash zone hydrodynamics*, **2011–2013**, led by Dr Gustaaf Kikkert from the Hong Kong University of Science and Technology, funded by the Hong Kong Research Grants Council
4. *Experimental characterization of instream-hyporheic fluxes in vegetated channels and wetlands*, **2011–2013**, led by Prof. Rui Ferreira from Instituto Superior Tecnico, Lisbon, funded by FCT, Portugal

Minor grants

- *Interaction between environmental gravity currents and benthic layers*, travel grant to visit Prof. Anton Schleiss and Dr Mario Franca at EPFL, Lausanne, **Binks Trust, £4,800**, June 2017.
- 6 months scholarship for a visiting PhD student from Perm National Research Polytechnic University, Russia, **Russian Ministry of Education and Science, £11,557**, 7-12/ 2016.

- Conference grants for two PhD students to attend international conferences (Claudia Moretto: EGU in April 2012, Kathryn Sparrow: ICCE in June 2012), **University of Aberdeen, £2,120.**
- *Flow resistance in turbulent open channel flows over permeable beds*, **Royal Society, £2,990, 1/2010-3/2010.** Travel grant to fund the visit of Dr Costantino Manes from Politecnico di Torino, Torino, Italy.
- *Turbulent coherent structures in open channel flows over permeable beds*, **Royal Society, £2,080, 05/2007.** Travel grant to fund the visit of Prof. Roger Shaw from University of California Davis.
- Spatially averaged turbulent stress, **Royal Society, £3,800, 07/2005–08/2005.** Travel grant to visit Dr Vladimir Nikora at NIWA, Christchurch, New Zealand.

TEACHING

(* indicates delivery in academic year 2017–18)

- Oct 05– **Reservoir Simulations*** (EG551O/1N): 15-credit lecture course. Level 5 MEng Petroleum, MSc Petroleum, Oil & Gas, Reservoir Engineering students. Student contact: 33 one-hour lectures, 8 three-hour computing classes, 8 one-hour tutorials (shared with Dr Roozbeh Rafati on 50/50 Pokrajac/Rafati basis)
- Oct 05– **Numerical Simulation of Waves*** (EG501S): 15-credit lecture course. Level 5 MEng Civil, Mechanical, petroleum and Electrical/Electronic Engineering students & MSc Advanced Mechanical Engineering. Student contact: 24 one-hour lectures, 9 two-hour computing classes, 3 hours tutorials.
- Oct 10– Sep 12 **Fluid Mechanics** (EG/ES3018): 15-credit lecture course. Level 3 MEng, and BEng Civil and Mechanical Engineering students. Student contact: 28 one-hour lectures, 12 one-hour tutorials, 27 hours laboratory work (shared with Prof. T. O'Donoghue on 40/60 Pokrajac/O'Donoghue basis).
- Oct 01– Sep 12 **Geotechnics 2** (EG40CA): 10-credit lecture course. Level 4 BEng and MEng Civil Engineering students. Student contact: 24 one-hour lectures and 12 one-hour tutorials (shared with Dr A. Ivanovic on 33/67 Pokrajac/Ivanovic basis).
- Oct 10– Sep 15 Contributor to **Fearsome Engines** (SX1007): 15-credit course. Level 1 students. Student contact: 24 one-hour lectures, 6 two-hour laboratory work (shared with other contributors on 17/83 Pokrajac/others basis).
- Nov 98–Sep 10 **Design of Structural elements** (EG/ES3529): 15-credit lecture course. Level 3 MEng, BEng, and BScEng Civil Engineering students. Student contact: 24 one-hour lectures, 12 one-hour tutorials, (shared with Dr P. Davidson on 50/50 Pokrajac/Davidson basis).
- Oct 03– Sep 05 **Engineering Analysis and Methods 3** (EG5591): 15-credit lecture course. Level 5 MEng Civil, Mechanical and Electrical/Electronic Engineering students. Student contact: 24 one-hour lectures, 12 one-hour tutorials (shared with Prof. M. Wiercigroch on 50/50 Pokrajac/ Wiercigroch basis).
- Nov 98–Sep 05 **Fluid Mechanics** (EG2539): 15-credit lecture course. Level 2MEng, BEng and BScEng Civil, Mechanical and Electrical/Electronic Engineering students. Student contact: 36 one-hour lectures, 12 one-hour tutorials× 3 groups, (shared with Dr C. Jones on 50/50 Pokrajac/Jones basis).
- Oct 96–Sep 05 **Environmental Engineering** (EG40CE): 15-credit lecture course. Level 4MEng, BEng and BScEng Civil and Mechanical students. Student contact: 36 one-hour lectures, 12 one-hour tutorials, (shared with Dr A. Deletic on 16/83 Pokrajac/Deletic basis).
- Nov 98– Sep 13 Contributor to **Field Survey Course** (EG3722): 5-credit week-long residential field course. Level 3 MEng, BEng and BScEng Civil Engineering students. Student contact for DP: 2 days).

- Nov 98– Sep 10 Contributor to **Engineering Design** (EG4578): 15-credit 3-weeks full-time course. Level 4 BEng and MEng Civil Engineering students. Student contact: approximately 8 hours).
- Nov 98– **Honours Project*** (EG4010 Engineering Project (BEng), EG4511 Individual Project (MEng)): 45/60-credit honours project. Typically 4–6 students per year, total contact of order 80 hours).
- Oct 99– Sep 15 **Advanced Topics for MEng Study** (EG5085): 30-credit course. Supervise typically 2–3 Level 5 Civil Engineering MEng students each year. Typical total student contact: 24 hours.

RESEARCH STUDENTS AND RESEARCH STAFF SUPERVISION

- Jan 20– **Oluwakemi Olofinnik**, PhD student. Topic: Macroscopic capillary pressure in multi-phase porous media flows (lead supervisor, co-supervisors Dr Yukie Tanino and Dr Yingfang Zhao).
- Oct 19– **Kazeem Odunlami**, PhD student. Topic: Impact of grain roughness on three-phase flow in water-wet media: a pore-scale study using X-ray Micro-Computed Tomography (joint supervision with Dr Prashant Jadhawar and Dr Yukie Tanino)
- Jul 19– **Abdulrauf Bello**, PhD student. Topic: Turbulence in porous media (lead supervisor, co-supervisor Prof. Vladimir Nikora).
- Oct 16–Dec 19 **Alexandra Roslin**, PhD student. Topic: Pore scale properties of coals (joint supervision with Dr Yingfang Zhao).
- Oct 15–Jan 20 ? **Anelechi Ibekwe**, PhD student. Topic: Impact of grain roughness on the pore scale distribution of immiscible fluids in porous media (lead supervisor, co-supervisor Dr Yukie Tanino).
- Oct 14– **Chalermchon Lertlum**, PhD student. Topic: Integrated model of hyporheic zone, stream and groundwater (lead supervisor, co-supervisor Prof. Chris Soulsby).
- Oct 14– **Azis Yudhowijoyo**, PhD student. Topic: Application of nanotechnology to enhance recovery of hydrocarbons from the unconventional reservoirs (joint supervision with Dr Roozbeh Rafati).
- Jan 17–July 17 **Zaibin Lin**, Postdoctoral RA on the project Modelling hyporheic exchange flows of natural streams in Palestine, Israel and the UK, (sole supervisor).
- Oct 13–Jan 17 **Zaibin Lin**, PhD student. Topic: Integrated numerical model of coastal wave, pile and soil and groundwater (lead supervisor, other supervisors: Profs Yakun Guo from Bradford University and D-S Jeng from University of Dundee).
- July 13–Sep 18 **Magaly Christensen**, PhD student. Topic: Impact of wettability on two-phase flow phenomena relevant to enhanced oil recovery and geological CO₂ storage (joint supervision with Dr Yukie Tanino).
- Apr 12–Feb 17 **Michele Starnoni**: PhD student. Topic: Modelling single and two-phase flow on micro-CT images of rock samples (lead supervisor, second supervisor: Prof. S. He from University of Sheffield).
- Feb 13–May 16 **Kathryn Sparrow**: Postdoctoral RA on EPSRC-funded project: Flood MEMORY: Multi-Event Modelling Of Risk & recovery (sole supervisor).
- Oct 10–Jan 15 **Sam Gorji**: PhD student based at the University of Sheffield. Topic: Experimental investigation of turbulence and wall shear stress in unsteady internal flows with rough surfaces (joint supervision with Dr Shuisheng He, University of Sheffield, and Prof. T.O'Donoghue).

- Oct 09–Jul 13 **Kathryn Sparrow**: PhD student. Topic: Oscillatory boundary layers above permeable surfaces (sole supervisor).
- Mar 09–Jan 13 **Claudia Moretto**: PhD student. Topic: Mass exchange across the fluid/porous interfaces (sole supervisor).
- Oct 06–Nov 12 **Nagia Elghanduri**: PhD student. Topic: CFD modeling of mass and momentum exchange across fluid/porous interfaces (sole supervisor).
- Feb 07–Jan 10 **Dr Gustaaf Kikkert**: Postdoctoral RA on EPSRC-funded project: Experimental and Numerical Modelling Study of Swash Zone Hydrodynamics and Sediment Transport. (joint supervision with Prof. T.O'Donoghue).
- Dec 07–Nov 09 **Adria Estany-Llorens**: KTP Associate on the project: Telepath™ – a new non-invasive approach to locating leaks in subsea umbilicals (sole supervisor).
- Oct 06–Oct 09 **Kate Steenhauer**: PhD student. Thesis: An experimental and numerical study of surface-subsurface interaction for bore-driven swash on coarse-grained beaches (2010) (joint supervision with Prof. T.O'Donoghue).
- Sep 05–Aug 07 **Kate Rudman**: Development Technologist on the Proof of Concept project: Increasing fluid-carrying capacity of urban ducts, culverts and small streams (sole supervisor).
- Oct 02–Sep 06 **Luke Hondebrink**: EPSRC DTA-funded PhD student. Thesis: Numerical and experimental study of bore-driven swash on impermeable slopes (2007). (joint supervision with Prof. T.O'Donoghue).
- Oct 05–Sep 06 **Symela Papadopoulou**: MSc student. Topic: Velocity distribution in shallow open channel flow over square bar roughness (2009) (sole supervisor).
- Oct 04–Oct 07 **Nial Horton**: PhD student. Thesis: Influence of a turbulent stream flow on the subsurface flow through a regular porous matrix (2008) (sole supervisor).
- Oct 01–Oct 05 **Costantino Manes**: PhD student. Thesis: Turbulent open channel flows over and within rough and permeable beds (2008) (joint supervision with Dr I. McEwan).
- Oct 00–Aug 04 **Lorna Campbell**: PhD student (part time). Thesis: Double-averaged open-channel flow over regular rough beds, PhD thesis, Aberdeen University (2005) (joint supervision with Dr I. McEwan).
- Oct 01–Sep 02 **Xiao Mei Wang**: MSc student. Thesis: Impact of soakaway infiltration system on the environment (2003) (sole supervisor).

ADMINISTRATION

Departmental/School

2014– Director of Research and the REF Lead for the School of Engineering
 2012–14 Convener, Working group for the Work Load Model
 2008–15 Level 5 Coordinator
 2008–15 Member, Teaching Committee,
 2008–15 Member, Student-Staff Liaison Committee
 2008–11 Coordinator for Postgraduate Research Students
 2008–11 Member, Research Committee
 2008–11 Convener, Postgraduate Research Students-Staff Liaison Committee
 2009– Course Coordinator, Level 5 Numerical Simulation of Waves
 2004–09 Course Coordinator, Level 5 Engineering Analysis and Methods

2008–09 Course Coordinator, Level 5 Engineering Management
 1999–05 Course Coordinator, Level 2 Fluid Mechanics and Thermodynamics
 2003–06 Fluids Laboratory Coordinator
 2001–08 Coordinator for Demonstration Schedule
 2001–08 Coordinator for Students with Disabilities

College/ University

2016–20 Member, Senate
 2012–14 Member, Senate
 2008–11 Member, College Postgraduate Committee
 2000–14 Adviser of Studies

MEMBERSHIP OF PROFESSIONAL BODIES

- Flood and Coastal Erosion Risk Management Network (FCERM_Net).
- International Double-Averaging Methodology (DAM) network
- Serbian Institution of Civil Engineers
- International Association of Hydraulic Research (IAHR)
- SFC-funded Scottish Carbon Storage Network

OTHER ACTIVITIES

- **Associate Editor** for Water Resources Research (since October 2011) and for Hydrological Processes (since July 2013).
- **External examiner** for PhD theses in the UK (Dundee University) and overseas (NUNT - Norwegian Institute of Science and Technology, Queensland University, Australia, University Université de Pau et des Pays de l'Adour, France).
- **Reviewer** of grant proposals for EPSRC, Leverhulme Trust, Climate KIC, and Swiss National Science Foundation (SNSF).
- **Reviewer** of journal papers for *Journal of Fluid Mechanics*, *Physics of Fluids*, *Water Resources Research*, *ASCE Journal of Hydraulic Engineering*, *IAHR Journal of Hydraulic Research*, *Experiments in Fluids*, *AGU Journal of Geophysical Research*, *Journal of Hydrology*, *Transport in Porous Media*, *ICE Water Management*, *Hydrological Processes*, *Acta Geophysica*, *Urban Water*, *International Journal of Heat and Fluid Flow*, *International Journal of Computational Mathematics*.
- Member of the **International Scientific Committee**, International Conference on Fluvial Hydraulics River Flow 2020, Delft, Netherlands (2020).
- Member of the **Program Committee**, 6th IAHR Europe Congress, Warsaw, Poland (2020).
- Member of the **International Scientific Committee**, International Conference on Fluvial Hydraulics River Flow 2014, Lausanne, Switzerland (2014).
- **Invited Seminar**, IUTAM International Workshop on Gravity Currents, University of California at Santa Barbara, USA (September 2017).
- **Invited research visit** to the EPFL, Lausanne, Switzerland (sponsored, 2016).

- **Invited Seminar**, 2nd International Workshop on Swash-Zone Process, University of Delaware, USA (July 2014).
- **Invited research visit** to the Department of Civil Engineering and Architecture, Instituto Superior Técnico, TU Lisbon, Portugal (sponsored, 2012).
- **Invited Keynote Lecture**, 2nd workshop: River and reservoir hydrodynamics and morphodynamics, Department of Civil Engineering and Architecture, Instituto Superior Técnico, TULisbon, Portugal (sponsored, 2011).
- **Invited Lecture** at LRET and University of Southampton Research Collegium in Advanced Ship and Maritime Systems Design, Southampton (sponsored, 2011)
- **Invited Panelist** for discussion on urban groundwater management, World Water Day 2011, Cape Town, South Africa (sponsored, 2011).
- **Invited Seminar**, Nezu Laboratory, Kyoto University, Kyoto, Japan (2009).
- **Invited Seminar**, Division of Computational Engineering, Kyoto University, Kyoto, Japan (2009).
- Member of the **International Scientific Committee**, International Conference on Fluvial Hydraulics River Flow 2010, Braunschweig, Germany (2010).
- **Invited Seminar**, Geophysical Turbulence Program Workshop: Turbulence and Scalar Transport in Roughness Sublayers, NCAR, Boulder, Colorado (sponsored, 2006).
- **Invited Lecture**, XXVII International School of Hydraulics, Hucisko, Poland, (sponsored, 2007).
- Member of the **Scientific Advisory Committee**, International Symposium New Directions in Urban Water Management, Paris, France (2007).
- **Invited Lecture**, International Symposium New Directions in Urban Water Management, Paris, France (sponsored, 2007).
- **Invited Seminar**, 4th World Water Forum in Mexico (sponsored, 2006).
- **Invited** to deliver a **Training Course** on urban water management for engineers and decision-makers, 4th World Water Forum in Mexico (sponsored, 2006).
- **Organiser**, 4th Double-Averaging Methodology Workshop, Aberdeen (2005).
- **Guest Editor** of the Special Issue of Urban Water devoted to groundwater in urban areas, *Urban Water* 3(3) (2001).
- **Host for academic visitors**: Dr Feng Liu, March 2019-February 2021; Dr Mario Franca, EPFL, May 2016; Prof. Rui Ferreira, TU Lisbon, Portugal, and Dr Mario Franca, Universidade de Coimbra, January 2011; Dr Costantino Manes, February/March 2010; Prof. John Finnigan, CSIRO, Australia, September 2005; Dr Thorsten Stosser, Karlsruhe University, December 2005; Dr Omduth Coceal, University of Reading, June 2006; Prof. Roger Shaw, University of California St. Davis, June 2006, June 2008.
- **Consultancy**: modelling porous media flows, simulations of water supply systems, drainage, and transient pipe flows, for water authorities, thermal power plants and large consultancy companies.

BIBLIOGRAPHY

Refereed journal papers in international journals

1. Venuleo, S., **Pokrajac, D.**, Talia, T., Constantinescu, G., Schleiss, A.J., Franca, M.J. (2021) Parameterization and results of SWE for gravity currents are sensitive to the definition of depth, accepted for publication in *Journal of Hydraulic Engineering*
2. Lin, Z., **Pokrajac, D.**, Guo, Y., Liao, C., Tang, T. (2020) Near-trapping effect of wave-cylinders interaction on pore water pressure and liquefaction around a cylinder array, *Ocean Engineering* 218, Article number 108047, <https://doi.org/10.1016/j.oceaneng.2020.108047>
3. Roslin, A., **Pokrajac, D.**, Wu, K., Zhou, Y. (2020) 3D pore system reconstruction using nano-scale 2D SEM images and pore size distribution analysis for intermediate rank coal matrix, *Fuel* 275(1), Article number 117934, <https://doi.org/10.1016/j.fuel.2020.117934>
4. Tanino, Y., Ibekwe, A., Pokrajac, D. (2020) Impact of grain roughness on residual nonwetting phase cluster size distribution in packed columns of uniform spheres, *Physical Review E* 102(1), Article number 013109, <https://doi.org/10.1103/PhysRevE.102.013109>
5. Roslin, A., **Pokrajac, D.**, Zhou, Y. (2020) Coal matrix pore analysis using nanoscale scanning electron microscopy and direct capillary pressure curve simulation, *Energy and Fuels* 34(6): 6761-6767, <https://doi.org/10.1021/acs.energyfuels.9b03726>.
6. Ibekwe, A., **Pokrajac, D.**, Tanino, Y. (2020) Automated extraction of in situ contact angles from micro-computed tomography images of porous media, *Computers and Geosciences* (137), Article number 104425, <https://doi.org/10.1016/j.cageo.2020.104425>
7. Starnoni, M., **Pokrajac, D.** (2020) On the macroscopic momentum balance equation for the fluid-fluid interfaces in two-phase porous media flows, *Advances in Water Resources* 135, Article number 103487.
8. Venuleo, S., **Pokrajac, D.**, G., Schleiss, A.J., Franca, M.J. (2019) Continuously-fed gravity currents propagating over a finite porous substrate, *Physics of Fluids* 31, 126601, <https://doi.org/10.1063/1.5124955>.
9. Ibekwe, A., Tanino, Y., **Pokrajac, D.** (2019) A Low-Cost, Non-hazardous Protocol for Surface Texturing of Glass Particles, *Tribology Letters* 67(4), Article number 115.
10. Roslin, A., **Pokrajac, D.**, Zhou, Y. (2019) Cleat structure analysis and permeability simulation of coal samples based on micro-computed tomography (micro-CT) and scan electron microscopy (SEM) technology, *Fuel* 254, Article number 115579.
11. Roslin, A., **Pokrajac, D.**, Zhou, Y. (2019) Permeability Upscaling Using the Cubic Law Based on the Analysis of Multiresolution Micro Computed Tomography Images of Intermediate Rank Coal, *Energy and Fuels* 33(19): 8215-8221.
12. Ballio, F., **Pokrajac, D.**, Radice, A., and Sadabadi, S.A.H. (2018) Lagrangian and Eulerian description of bed-load transport, *Journal of Geophysical Research - Earth Surface* 123(2): 384-408.
13. Leonardi, A., **Pokrajac, D.**, Roman, F., Zanello, F., Armenio, V. (2018) Surface and subsurface contributions to the build-up of forces on bed particles, *Journal of Fluid Mechanics* 851(25): 558-572.
14. Starnoni, M., **Pokrajac, D.** (2018) Numerical study of the effects of contact angle and viscosity ratio on the dynamics of snap-off through porous media, *Advances in Water Resources* 111:70-85.
15. Mathur, A., Gorji, S. He, S., Seddighi, M., Vardy, A. E., O'Donoghue, T., and **Pokrajac, D.** (2018) Temporal acceleration of a turbulent channel flow, *Journal of Fluid Mechanics* 835: 471-490.
16. **Pokrajac, D.**, Venuleo, S., Franca, M.J. (2018) Depth-averaged momentum equation for gravity currents with varying density: coefficient in pressure term, *Journal of Hydraulic Research* 56(3): 424-430.
17. Lin, Z., **Pokrajac, D.**, Guo, Y., Jeng, D-S., Tang, T., Rey, N., Zheng, J., Zhang, J. (2017) Investigation of nonlinear wave-induced seabed response around mono-pile foundation, *Coastal Engineering* 121:197-211.
18. Dai, H.-J., Kikkert, G.A., **Pokrajac, D.**, Chen, B.-T. (2017) Entrained air in bore-driven swash on an impermeable rough slope, *Coastal Engineering* 121:26-43.
19. Starnoni, M., **Pokrajac, D.**, Neilson, J.E. (2017) Computation of fluid flow and pore-space properties estimation on micro-CT images of rock samples, *Computers and Geosciences* 106: 118-129.

20. Kartal, M. E., L. H. Dugdale, J. J. Harrigan, M. A. Siddiq, **D. Pokrajac**, D. M. Mulvihill (2017) Three-dimensional in situ observations of compressive damage mechanisms in syntactic foam using X-ray microcomputed tomography, *Journal of Materials Science* 52(17): 10186-10197.
21. Ganesan, P.B., Tariqul Islam, M., **Pokrajac, D.**, Hamad, F.A., Sandaran, S.C. (2017) Coalescence and rising behavior of co-axial and lateral bubbles in viscous fluid: a CFD study, *Asia-Pacific Journal of Chemical Engineering* 12(4): 605-619.
22. **Pokrajac, D.** (2017) From fluid particle to bulk flow: macroscopic description of turbulent open channel flow and flow within an underlying porous medium, *Vodoprivreda* 49(285-287): 29-39.
23. Wang, H., Vardy, A., E., **Pokrajac, D.** (2016) Perforated tunnel exit regions and MPWs: geometrical influence, *Proceedings of the Institution of Civil Engineers Paper* 1500026.
24. O'Donoghue, T., Kikkert, G.A., **Pokrajac, D.**, Dodd, N., Briganti, R. (2016) Intra-swash hydrodynamics and sediment flux for dambreak swash on coarse-grained beaches, *Coastal Engineering* 112: 113-130.
25. Chen, B.-T., Kikkert, G.A., **Pokrajac, D.**, Dai, H.-J. (2016), Experimental study of bore-driven swash-swash interactions on an impermeable rough slope, *Coastal Engineering* 108: 10-24.
26. Seddighi, M., He, S., **Pokrajac, D.**, Vardy, A.E. (2015) Turbulence in a transient channel flow with a wall of pyramid roughness, *Jour. Fluid Mechanics* 781: 226-260.
27. Wang, H., Vardy, A., E., **Pokrajac, D.** (2015) Perforated exit regions for the reduction of micro-pressure waves from tunnels, *J. Wind Eng. Ind. Aerodyn.* 146: 139-149.
28. Pintado-Patiño, J.C., Torres-Freyermuth, A., Puleo, J.A., **Pokrajac, D.** (2015) On the role of infiltration and exfiltration in swash zone boundary layer dynamics, *Journal of Geophysical Research C: Oceans* 120(9): 6329:6350.
29. **Pokrajac, D.** and de Lemos, M.J.S. (2015) Spatial averaging over a variable volume and its application to boundary layer flows over permeable walls, *ASCE Journal of Hydraulic Engineering* 141(4), Article number 04014087.
30. Wang, H., Vardy, A.E., **Pokrajac, D.** (2015) Pressure radiation from a perforated duct exit region, *Journal of Sound and Vibration* 351(1): 29-42
31. **Pokrajac, D.** and de Lemos, M.J.S. (2014) Double Averaging Methodology and double-decomposition: description of intermediate scales between a fluid particle and a catchment, *Invited Commentary Hydrological Processes* 28:3356-3360
32. Gorji, S., Seddighi, M., Ariyaratne, C., Vardy, A.E., O'Donoghue, T., **Pokrajac, D.**, He, S. (2014) A comparative study of turbulence models in a transient channel flow, *Computers and Fluids* 89: 111-123.
33. Zehentbauer, F.M., Moretto, C., Stephen, R., Thevar, T., Gilchrist, J.R., **Pokrajac, D.**, Richard, K.L., Kiefer, J (2014) Fluorescence spectroscopy of Rhodamine 6G: Concentration and solvent effects, *Spectrochimica Acta - Part A: Molecular and Biomolecular Spectroscopy* 121: 147-151.
34. **Pokrajac, D.** (2013) Depth-integrated Reynolds-averaged Navier-Stokes equations for shallow flows over rough permeable beds, *Journal of Hydraulic Research* 51(5): 597-600.
35. Kikkert, G., **Pokrajac, D.**, O'Donoghue, T., Steenhauer, K. (2013) Experimental study of bore-driven swash hydrodynamics on permeable rough slopes, *Coastal Engineering* 79: 42-56.
36. Torres-Freyermuth, A., Puleo, J., **Pokrajac, D.** (2013) Modeling swash-zone hydrodynamics and shear stresses on planar slopes using Reynolds-Averaged Navier-Stokes equations, *AGU Journal of Geophysical Research: Ocean* 118(2): 1019-1033.
37. Nikora, V., Ballio, F., Coleman, S., Radice, A., **Pokrajac, D.** (2013) Spatially-averaged flows over mobile rough beds: definitions, averaging theorems, and conservation equations, *Journal of Hydraulic Engineering* 139(8): 803-811.
38. Steenhauer, K., **Pokrajac, D.**, O'Donoghue, T. (2012) Numerical model of swash motion and air entrapment within coarse-grained beaches, *Coastal Engineering* 64: 113-126.
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