LIST OF SCIENTIFIC AND PROFESSIONAL PUBLICATIONS

a) Thesis:

Combination of Asymptotic and Numerical Methods for the Investigation of Rotating Compressible Flows in a Cylinder for small Rossby and Ekman Numbers, D.Sc. thesis, Technion, Haifa, April 1980 (in Hebrew). Supervisor: Prof. M. Israeli.

b) Original Papers in Professional Journals, with Referees:

1. M. Toren, A. Solan, M. Ungarish, "Rotating Flow over a Disk Sector" *J. Appl. Mech.,* Vol. 49, #1, pp.13-18, 1982.

2. M. Ungarish, M. Toren, A. Solan, "The Flow over a Rotating Disk Sector" *J. Appl. Mech.,* Vol. 49, #3, pp. 661-663, 1982.

3. M. Israeli, M. Ungarish, "Improvement of Numerical Solution of Boundary Layer Problems by Incorporation of Asymptotic Approximations" *Num. Math.,* Vol. 39, pp. 309-324, 1982.

4. H.P. Greenspan, M. Ungarish, "On Hindered Settling of Particles of Different Sizes," *Int. J. Multiphase Flow,* Vol. 8, #6, pp. 587-604, 1982.

5. M. Israeli, M. Ungarish, "Laminar Compressible Flow Between Close Rotating Disks - An Asymptotic and Numerical Study," *Computers and Fluids,* Vol. 11, #2, pp. 145-157, 1983.

6. M. Ungarish, H.P. Greenspan, "On Two-Phase Flow in a Rotating Boundary Layer," *Studies in Appl. Math.,* Vol. 69, pp. 145-175, 1983.

7. M. Ungarish, H.P. Greenspan, "On Centrifugal Separation of Particles of Two Different Sizes," *Int. J. Multiphase Flow,* Vol. 10, #2, pp. 133-148, 1984.

8. M. Ungarish, H.P. Greenspan, "On the Radial Filling of a Rotating Cylinder," *J. Fluid Mech.,* Vol. 141, pp. 97-107, 1984.

9. M. Ungarish, M. Israeli, "Axisymmetric Compressible Flow in a Rotating Cylinder with Axial Convection," *J. Fluid Mech.,* Vol. 154, pp. 121-144, 1985.

10. H.P. Greenspan, M. Ungarish, "On the Centrifugal Separation of a Bulk Mixture," *Int. J. Multiphase Flow,* Vol. 11, #6, pp. 825-835, 1985.

11. H.P. Greenspan, M. Ungarish, "On the Enhancement of Centrifugal Separation," *J. Fluid Mech.,* Vol. 157, pp. 359-379, 1985.

12. M. Ungarish, "Flow of a Separating Mixture in a Rotating Cylinder," *Phys. Fluids,* Vol. 29, #3, pp. 640-646, 1986.

13. M. Ungarish, H.P. Greenspan, "On the Radial Filling of a Rotating Cylinder with a Mixture," *J. Fluid Mech.,* Vol. 162, pp. 117-128, 1986.

14. M. Ungarish, "Two-Fluid Analysis of Centrifugal Separation in a Finite Cylinder," *Int. J. Multiphase Flow,* Vol. 14, #2, pp. 233-243, 1988.

15. M. Ungarish, "On Shear Layers in Mixture Separation in Rotating Containers with Inclined Walls," *J. Fluid Mech.,* Vol. 193, pp. 27-51, 1988.

16. M. Ungarish, "Numerical Investigation of Two-Phase Rotating Flow," *Int. J. Multiphase Flow,* Vol. 14, #6, pp. 729-747, 1988.

17. M. Ungarish, "Side Wall Effects in Centrifugal Separation of Mixtures," *Phys. Fluids A,* Vol. 1, #5, pp. 810-818, 1989.

18. M. Ungarish, "Spin-up from Rest of a Mixture," *Phys. Fluids A,* Vol. 2, #2, pp. 160-166, 1990.

19. C. Daitzchman, C. Aharoni, and M. Ungarish, "Effects of Subsurface Penetration on the Kinetics of Adsorption," *Surface Science,* Vol. 244, pp. 362-370, 1991.

20. M. Ungarish, "On Spin-up from Rest of a Light-Particle Suspension in a Cylinder: Theory and Observations," *Int. J. Multiphase Flow,* Vol. 17, #1, pp. 131-143, 1991.

21. M. Toren, M. Ungarish, A. Solan, and G. Pinchuck, "Buoyancy Driven Convection due to Mass Transfer Near a Rotating Disk at High Schmidt Numbers," *J. Appl. Mech.,* Vol. 113, pp. 566-571, 1991.

22. M. Ungarish, "Modeling and Simulation of Separating Mixture Flows," *Computer Meth. Appl. Mech. and Eng.,* 91, pp. 1175-1185, 1991.

23. G. Amberg, M. Ungarish, "Spin-up from Rest of a Mixture: Simulation and Theory." *J. Fluid Mech.,* Vol. 246, pp. 443-464, 1993.

24. D. Vedensky, M. Ungarish, "The Motion Generated by a Slowly Rising Disk in an Unbounded Rotating Fluid for Arbitrary Taylor Number," *J. Fluid Mech.,* Vol. 262, pp. 1-26, 1994.

25. M. Ungarish, "Centrifugal Separation of a Polydispersed Suspension in a Long Cylinder," *ZAMM,* Vol. 75, pp. 23-26, 1995.

26. M. Ungarish, D. Vedensky, "The Motion of a Rising Disk in a Rotating Axially Bounded Fluid for Large Taylor Number," *J. Fluid Mech.,* Vol. 291, pp. 1-32, 1995.

27. M. Ungarish, "On the Modeling and Investigation of Polydispersed Rotating Suspensions," *Int. J. Multiphase Flow,* Vol. 21, # 2, pp. 262-284, 1995.

28. M. Ungarish, "A Note on the Effects of Bulk Density vs. Interstitial Fluid Density in Stability Considerations of a Suspension Overlain by a Heavy Fluid," *Int. J. Multiphase Flow,* Vol. 22, pp. 621-625, 1996.

29. M. Ungarish, "Some Shear-Layer and Inertial Modifications of the Geostrophic Drag on a Slowly Rising Particle or Drop in a Rotating Fluid," *J. Fluid Mech.,* Vol. 319, pp. 219-249, 1996.

30. M. Ungarish, "Some Shear-Layer and Spin-Up Modifications of the Geostrophic Drag on a Slowly Rising Particle or Drop in a Rotating Fluid," *Phys. Fluids,* Vol. 9, pp. 325-336, 1997.

31. M. Ungarish, "The Spin-up of Liquid Metal Driven by a Rotating Magnetic Field," *J. Fluid Mech.,* Vol. 347, pp. 105-116, 1997.

32. M. Ungarish, H.E. Huppert "The effects of rotation on axisymmetric particle-driven gravity currents," *J. Fluid Mech.*, Vol. 362, pp. 17-51, 1998.

33. M. Ungarish, H.E. Huppert "Simple models of Coriolis-influenced axisymmetric particle-driven gravity currents," *Int. J. Multiphase Flow*, Vol. 25, pp 715-737, 1999.

34. A.J. Hogg, M. Ungarish, H.E. Huppert "Particle-driven gravity currents: asymptotic and box-model solutions," *European J. Mech. B / Fluids*, Vol. 19, pp. 139-165, 2000.

35. J. Mang, M. Ungarish, U. Schaflinger, "Numerical separation of a mixture in a rotating source-sink flow," *ZAMM,* in press, 2000.

36. E. Minkov, M. Ungarish, M. Israeli "The motion generated by a Rising Particle in a Rotating Fluid - numerical solutions. Part 1: The short container case," *J. Fluid Mech.*, Vol 413, pp. 111-148, 2000.

37. M. Ungarish, H.E. Huppert " High Reynolds number gravity currents over a porous boundary: shallow-water solutions and box-model approximations," *J. Fluid Mech.*, Vol. 418, pp. 1-23, 2000.

38. J. Mang, M. Ungarish, U. Schaflinger, "Gravitational-centrifugal separation in an axisymmetric source-sink flow with a free surface," *Int. J. Multiphase Flow*, Vol. 27, pp. 197-215, 2001.

39. M. Ungarish, "On the separation of a suspension in a tube centrifuge," *Int. J. Multiphase Flow*, Vol. 27, pp. 1285-1291, 2001.

40. M. A. Hallworth, H.E. Huppert, M. Ungarish, "Axisymmetric gravity currents in a rotating system: experimental and numerical investigations," *J. Fluid Mech.*, Vol. 447, pp. 1-29, 2001.

41. A. J. Hogg, M. Ungarish, H.E. Huppert "Effects of particle-sedimentation and rotation on axisymmetric gravity currents," *Physics of Fluids*, Vol. 13, pp. 3687-3698, 2001.

42. E. Minkov, M. Ungarish, M. Israeli "The motion generated by a Rising Particle in a Rotating Fluid - numerical solutions. Part 2: The long container case," *J. Fluid Mech.*, Vol. 454, pp. 345-364, 2002.

43. M. Ungarish, H.E. Huppert "On gravity currents propagating at the base of a stratified ambient". *J. Fluid Mech.*, Vol. 458, pp. 283-307, 2002.

44. J. B. Flor, M. Ungarish, J. W. M. Bush "Spin-up from rest in a stratified fluid: boundary flows," *J. Fluid Mech.*, Vol. 472, pp. 51-82, 2002.

45. M. Ungarish, J. Mang "Spin-up from rest of a two-layer fluid about a vertical axis," *J. Fluid Mech.*, Vol. 474, pp. 117-145, 2003.

46. M. Ungarish, T. Zemach "On axisymmetric rotating gravity currents: two-layer shallow-water and numerical solutions," *J. Fluid Mech.*, Vol. 481, pp. 37-66, 2003.

47. M. Ungarish "On the separation of a suspension in a tube centrifuge: critical comments on theoretical models and experimental verifications," *Archive Appl. Mech.*, Vol. 73, pp. 399-408, 2003.

48. M. A. Hallworth, H.E. Huppert, M. Ungarish "On inwardly propagating axisymmetric gravity currents" *J. Fluid Mech.*, Vol. 494, pp. 255-274, 2003.

49. J. B. Flor, J. W. M. Bush, M. Ungarish "An experimental investigation of spin-up from rest of a stratified fluid," *Geophysical and Astrophysical Fluid Dynamics*, Vol. 98, pp. 277-296, 2004.

50. M. Ungarish, H.E. Huppert "On gravity currents propagating at the base of a stratified ambient: effects of geometrical constraints and rotation," *J. Fluid Mech.*, vol. 521, pp. 69-104, 2004.

51. M. Ungarish, T. Zemach "On the slumping of high Reynolds number gravity currents," *European J. Mech. B / Fluids*, Vol. 24 (1), pp. 71-90, 2005.

52. P.A. Nikrityuk, M. Ungarish, K. Eckert, R. Grundmann "Spin-up of a liquid metal flow driven by a rotating magnetic field in a finite cylinder: a numerical and an analytical study," *Physics of Fluids*, Vol. 17, pp. (067101) 1-16, 2005.

53. M. Ungarish "Dam-break release of a gravity current in a stratified ambient," *European J. Mech. B / Fluids*, Vol. 24 (5), pp. 642-658, 2005.

54. M. Ungarish "Intrusive gravity currents in a stratified ambient - shallow-water theory and numerical results," *J. Fluid Mech.*, Vol. 535, pp. 287-323, 2005.

55. G. Seiden, M. Ungarish, S. G. Lipson "On the banding of suspended particles in a rotating fluid-filled horizontal cylinder," *Physical Review E*, Vol 72, article number 021407 (pp. 1-9), 2005.

56. M. Ungarish "On gravity currents in a linearly stratified ambient: a generalization of Benjamin's steady-state propagation results," *J. Fluid Mech.*, Vol. 548, pp. 49-68, 2006.

57. M. Ungarish, H.E. Huppert "Energy balances for propagating gravity currents: homogeneous and a stratified ambients," *J. Fluid Mech.*, Vol. 565, pp. 363-380, 2006.

58. M. Ungarish, T. Zemach " On axisymmetric intrusive gravity currents in a stratified ambient - shallow-water theory and numerical results," *European J. Mech. B / Fluids*, Vol. 26, pp. 220-235 , 2007.

59. G. Seiden, M. Ungarish, S. G. Lipson "Formation and stability of band patterns in a rotating suspension-filled cylinder," *Physical Review E*, Vol 76, pp. 026221 1-9, 2007. DOI: 10.1103/PhysRevE.76.026221

60. M. Ungarish, "Axisymmetric gravity currents at high Reynolds number - on the quality of shallow-water modeling of experimental observations," *Phys. Fluids,* Vol. 19, pp. (036602) 1-7, 2007.

61. M. Ungarish, "A shallow water model for high-Reynolds gravity currents for a wide range of density differences and fractional depths," *J. Fluid Mech.*, Vol. 579, pp. 373-382, 2007.

62. T. Zemach, M. Ungarish "On axisymmetric intrusive gravity currents in a deep fully-linearly stratified ambient: the approach to self-similarity solutions of the shallow-water equations," *Proc. R. Soc. A*, vol. 463, pp. 2165-2183, 2007.

63. V. K. Birman, E. Meiburg, M. Ungarish, "On gravity currents in stratified ambients," *Phys. Fluids,* Vol. 19, pp. (086602) 1-10, 2007. [DOI: 10.1063/1.2756553]

64. T. Zemach, M. Ungarish " On axisymmetric intrusive gravity currents: the approach to self-similarity solutions of the shallow-water equations in a stratified ambient ," Physica D: Nonlinear Phenomena, Vol 237, pp. 2162-2166, 2008.

65. M. Ungarish, H.E. Huppert "Energy balances for axisymmetric gravity currents in homogeneous and linearly stratified ambients," *J. Fluid Mech.*, Vol. 616, pp. 303-326, 2008.

66. M. Ungarish, "Energy balances and front speed conditions of two-layer models for gravity currents produced by lock release," *Acta Mechanica*, Vol. 201, pp. 63-81, 2008.

67. M. Ungarish, "Energy balances for gravity currents with a jump at the interface produced by lock release," *Acta Mechanica*, Vol. 211, pp. 1-22, 2010.

68. M. Ungarish, "The propagation of high-Reynolds-number non-Boussinesq gravity currents in axisymmetric geometry," *J. Fluid Mech.*, Vol. 643, pp. 267-277, 2010.

69. T. Zemach, M. Ungarish, "A steady-state model for asymmetric intrusive gravity currents," *Environmental Fluid Mech.*, Vol. 11 (3), pp. 231-246, DOI 10.1007/s10652-010-9169-9, 2011.

70. T. Bonometti, M. Ungarish, S. Balachandar, " A numerical investigation of constant-volume non-Boussinesq gravity currents in deep ambient, " *J. Fluid Mech.*, vol. 673, pp. 574-602, 2011.

71. M. Ungarish, "Two-layer shallow-water solutions for non-Boussinesq gravity currents in a wide range of fractional depth." *J. Fluid Mech.*, Vol. 675, pp. 27-59, 2011.

72. M. Ungarish, "A non-dissipative solution of Benjamin-type gravity current for a wide range of depth ratios." *J. Fluid Mech.*, vol. 682, pp. 54-65, 2011.

73. M. Ungarish,"Gravity currents and intrusions of stratified fluids into a stratified ambient." *Environmental Fluid Mech.*, DOI 10.1007/s10652-011-9216-1, Vol. 12, Issue 2, pp 115-132 , 2011.

74. M. Ungarish, "A general solution of Benjamin-type gravity current in a channel of non-rectangular cross-section." *Environmental Fluid Mech.*, Vol. 12, Issue 3, pp. 251-263, DOI 10.1007/s10652-011-9232-1, 2011.

75. M. Ungarish, "An analogy of Taylor's instability criterion in Couette and rotating-magnetic-field-driven flows." *Phys. Fluids*, vol. 24 - 011704, 2012.

76. M.R. Flynn, M. Ungarish and A.W. Tan, "Gravity currents in a two-layer stratified ambient: the theory for the steady-state (front condition) and lock-released flows, and experimental confirmations."*Phys. Fluids,* Vol. 24:1, pp. 026601-1 - 26, 2012.

77. T. Zemach, M. Ungarish, "The flow of high-Reynolds axisymmetric gravity currents of a stratified fluid into a stratified ambient -shallow-water and box model solutions." *Environmental Fluid Mech.*, Vol. 12, Issue 4, pp. 347-359, DOI 10.1007/s10652-012-9235-6, 2012.

78. M. Ungarish, J.D. Sherwood, "Draining of a thin film on the wall of a conical container set into rapid rotation about its vertical axis." *Phys. Fluids,* Vol.24:2, pp. 023602-1-21, DOI 10.1063/1.3682714, 2012.

79. T. Zemach, M. Ungarish, "The flow of an axisymmetric stratified gravity current into a stratified ambient in a rotating system." *Environmental Fluid Mech.*, in press, online, doi 10.1007/s10652-011-9232-1, 2013.

80. T. Zemach, M. Ungarish, "Gravity currents in non-rectangular cross-section channels: analytical and numerical solutions of the one-layer shallow-water model for high-Reynolds-number propagation." *Physics of Fluids*, Vol. 25, pp. 026601-1–24, 2013.

81. M. Shringarpure, H. Lee , M. Ungarish, S. Balachandar, "Front condition of high-Re gravity currents produced by constant and time-dependent influx: an analytical and numerical study," *Europ. J. Mech./B*, Vol. 41, pp. 109-122, 2013.

82. R. Goldman, M. Ungarish, I. Yavneh, "Gravity currents with double stratification: a numerical and analytical investigation." *Environmental Fluid Mech.*, Vol. 14, pp. 471-499, 2014.

83. M. Ungarish, "Two-layer shallow-water dam-break solutions for gravity currents in non-rectangular cross-area channels," J. Fluid Mech., Vol. 732, pp. 573-570, 2013.

84. S. Longo, V. DiFederico, R. Archetti, L. Chiapponi, V. Ciriello, M. Ungarish, "On the axisymmetric spreading of non-Newtonian power-law gravity currents of time-dependent volume: an experimental and theoretical investigation focused on the inference of rheological parameters. " *J. non-Newtonian Fluid Mech.*, Vol. 201, pp. 69-79, 2013.

85. M. Ungarish, Z. Borden, E. Meiburg, "Gravity currents with tailwaters in Boussinesq and non-Boussinesq systems: two-layer shallow-water dam-break solutions and Navier-Stokes simulations." *Environmental Fluid Mech.*, Vol. 14, pp. 451-470, 2014.

86. M. Ungarish, C. A. Mériaux, C. B. Kurz-Besson, "The propagation of gravity currents in a V-shaped triangular cross-section channel: experiments and theory," *J. Fluid Mech.*, Vol. 754, pp. 232-249, 2014.

87. M. Ungarish, C. G. Johnson, A. J. Hogg, "A novel hybrid model for the motion of sustained axisymmetric gravity currents and intrusions," *Europ. J. Mech./B*, Vol. 49, pp. 108-120, 2015.

88. M. Ungarish, "Shallow-water solutions for gravity currents in non-rectangular cross-area channels with stratified ambient," *Environmental Fluid Mech.*, in press, 2014. DOI 10.1007/s10652-014-9383-y

89. S. Longo and Ungarish, M. and Di Federico, V. and Chiapponi, L. and Maranzoni, A., "The propagation of gravity currents in a circular cross-section channel: experiments and theory for the two-layer configuration," *J. Fluid Mech.*, Vol. 764, pp. 513–537, 2015.

90. R. M. Sahuri, A. K. Kaminski, M. R. Flynn, M. Ungarish, "Axisymmetric gravity currents in two-layer density-stratified media," *Environmental Fluid Mech.*, Vol. 15, pp. 1035-1051, , 2015. DOI 10.1007/s10652-015-9397-0

91. M. Ungarish, "On the coupling between spin-up and aspect ratio of vortices in rotating stratified flows: a predictive model," *J. Fluid Mech.*, Vol. 777, pp. 461-481, 2015.

92. M. Ungarish, C. G. Johnson, A. J. Hogg, "Sustained axisymmetric intrusions in a rotating system," *Europ. J. Mech./B*, Vol. 56, pp. 110-119, 2016.

93. M. Ungarish, "On the front conditions for gravity currents in channels of general cross-section," *Environmental Fluid Mech.*, Vol. 16, pp. 747-775, 2016.

94. S. Longo, M. Ungarish, V. Di Federico, L. Chiapponi, F. Addona, "Gravity currents produced by constant and time varying inflow in a circular cross-section channel: experiments and theory," *ADWR*, Vol. 90, pp. 10-23, 2016.

95. A. Hogg, M. M Nasr-Azadani, M. Ungarish, E. Meiburg, " Sustained gravity currents in a channel," *J. Fluid Mech.*, Vol. 798, pp. 853-888, 2016.

96. C. A. Mériaux, Zemach, T. , Kurz-Besson, C. B., and Ungarish, M., "The propagation of particulate gravity currents in a V-shaped triangular cross-section channel: experiments and shallow-water numerical simulations," *Physics of Fluids* Vol. 28, pp. 036601-13,2016.

97. F. Y. Testik, Ungarish, M., "On the self-similar propagation of gravity currents through an array of emergent vegetation-like obstacles," *Physics of Fluids* Vol. 28, pp. 056605-1-21, 2016.

98. S. Longo, Ungarish, M., Di Federico, V., Chiapponi, L., Addona, F., "Gravity currents in a linearly stratified ambient fluid created by lock release and influx in semi-circular and rectangular channels," *Physics of Fluids*, Vol. 28, pp. 096602-1-25, 2016.

99. M. Ungarish, "Thin-layer models for gravity currents in channels of general cross-section area, a review, " *Environmental Fluid Mech.*, online DOI 10.1007/s10652-017-9535-y, 2017.

100. M. Ungarish, "Benjamin's gravity current into an ambient fluid with an open surface," *J. Fluid Mech.*, vol. 825, pp. 1-12, 2017.

101. T. Zemach, L. Chiapponi, D. Petrolo, M. Ungarish, S. Longo, V. Di Federico, "On the propagation of particulate gravity currents in circular and semi-circular channels partially filled with homogeneous or stratified ambient fluid", *Physics of Fluids*, vol. 29:10, pp. 106605-1-17, 2017.

102. L. Chiapponi, M. Ungarish, S. Longo, V. Di Federico, F. Addona, "Critical regime of gravity currents flowing in non–rectangular channels with density stratification" *J. Fluid Mech.*, vol. 840, pp. 579-612, 2018.

103. M. Ungarish, A. J. Hogg, "Models of internal jumps and the fronts of gravity currents: unifying two-layer theories and deriving new results" *J. Fluid Mech.*, vol. 846, pp. 654-685, 2018.

104. S. Longo and Ungarish, M. and Di Federico, V. and Chiapponi, L. and Petrolo, D., "Gravity currents produced by lock-release: theory and experiments concerning the effect of a free top in non-Boussinesq systems," *Advances in Water Resources*, vol. 121, pp. 456-471, 2018.

105. M. Ungarish, "Benjamin's gravity current into an ambient fluid with an open surface in a channel of general cross-section," *J. Fluid Mech.*, vol. 859, pp. 972-991, 2019.

106. J. S. Salinas, T. Bonometti, M. Ungarish, M. Cantero, "Rotating planar gravity currents at moderate Rossby numbers: fully-resolved simulations and shallow-water modeling," *J. Fluid Mech.*, vol. 867, pp. 114-145, 2019.

107. L. Chiapponi, M. Ungarish, S. Longo, D. Petrolo, V. Di Federico, "Non-Boussinesq gravity current advancing in a circular-cross-section-channel with open top: theoretical and experimental investigation," *J. Fluid Mech.*, vol. 869, pp. 610-633, 2019.

108. M. Ungarish, L. Zhu, H. A. Stone, "Inertial gravity current produced by the drainage of a cylindrical reservoir from an outer or inner edge," *J. Fluid Mech.*, vol. 874, pp. 185-209, 2019.

109. T. Zemach, M. Ungarish, "On gravity currents of fixed volume that encounter a down-slope or up-slope bottom," *Physics of Fluids*, vol. 31, pp. 096604, 2019.

110. A. Martin, M. E. Negretti, M. Ungarish, "Continuously supplied gravity currents head propagating on bottom slopes: theory and experiments," 2019.

111. M. S. Baker, M. Ungarish, M. R. Flynn, "Tailwater gravity currents and their connection to perfectly subcritical flow: laboratory experiments and shallow-water and direct numerical solutions," *Environmental Fluid Mech.*, online, DOI= 10.1007/s10652-020-09745-7, 2020.

112. T. Zemach, M. Ungarish, "Inertial gravity current in rectangular channels over a porous bottom: asymptotic solutions," *Europ. J. Mech./B*, vol. 84, pp 122-128, 2020.

113. T. Zemach, M. Ungarish, "A model for the propagation of inertial gravity currents released from a two-layer stratified lock," *J. Fluid Mech.*, vol. 903, pp. R5-1–12, 2020.

114. T. Zemach, M. Ungarish, "Gravity currents with internal stratification in channels of non-rectangular cross-section," *Europ. J. Mech./B*, vol. 89, pp. 83-92, 2021.

115. D. Petrolo, M. Ungarish, L Chiapponi, V. Ciriello, S Longo, "Experimental verification of theoretical approaches for radial gravity currents draining from an edge," *Acta Mech*, vol. 232, pp. 44614483, doi 10.1007/s00707-021-03066-6, 2021.

116. M. Ungarish, "On symmetric intrusions in a linearly stratified ambient: a revisit of Benjamin's steady-state propagation results," *J. Fluid Mech.*, vol. 929, pp. A8-1–19, 2021.

117. E. W. G. Skevington, A. J. Hogg, M. Ungarish, "The development of supercritical motion and internal jumps within lock-release radial currents and draining flows," *Phys. Rev. Fluids*, vol. 6, pp. 063803-1–18, doi 10.1103/PhysRevFluids.6.063803, 2021.

118. D. Petrolo, M. Ungarish, L. Chiapponi, S Longo, "Experimental study on radial gravity currents flowing in a vegetated channel," *J. Fluid Mech.*, vol. 933, pp. A46-1–38, 2021.

119. M. Ungarish, "A simple model for the reflection by a vertical barrier of a dambreak-flow over a dry or pre-wetted bottom," *J. Fluid Mech.*, vol. 942, pp. R6-1–11, 2022.

120. M. Ungarish, "On the spinup and spreadout of a Cartesian gravity current on a slope in a rotating system," *J. Fluid Mech.*, vol. 943, pp. A31-1–30, 2022.

121. L. Chiapponi, T, Zemach, D. Petrolo, M. Ungarish, S Longo, "Experimental study on gravity currents with internal stratification in semicircular channels," *Europ. J. Mech./B*, vol. 97, pp. 12-27, 2023. (doi.org/10.1016/j.euromechflu.2022.08.004)

122. M. Ungarish, "On simple models for gravity currents from moving sources," *J. Fluid Mech.*, vol. 952, pp. A24-1–19, 2022.

123. M. Ungarish, "Strongly supercritical non-Boussinesq sustained gravity currents: Time-dependent and steady-state approximate solutions," *Phys. Rev. Fluids*, vol. 8, pp. 053801-1–21, 2023.

124. M. Ungarish, "The drag on a rising sphere along the axis in a short rotating cylinder of fluid: revisiting the data and theory," *J. Fluid Mech.*, vol. 979, pp. A30-1–20, 2024.

c) Published Conference Papers in Proceedings:

1. M. Israeli, M. Ungarish, "Approximate Computation of Non-Linear Rotating Axisymmetric Flow," *Euromech-80, Stroemungsmechanik 22,* pp. 47-49, 1977.

2. M. Israeli, M. Ungarish, "Improvement of Numerical Schemes by Incorporation of Approximate Solutions," *Proc. 7th Int. Conf. Num. Meth. Fluid Dynamics, Lecture Notes in Physics,* 141, pp. 230-235, 1981.

3. M. Ungarish, H.P. Greenspan, "On a Fundamental Problem in Two-Phase Centrifugal Separation," *Proc. Separation Phenomena in Liquids and Gases, First Workshop,* edited by K. G. Roesner and E. Raetz, Tech. Hochschule Darmstadt, Germany, pp. 419-429, 1987.

4. M. Ungarish, "Spin-Up from Rest of a Suspension - A Preliminary Insight," *Proc. Separation Phenomena in Liquids and Gases, Second Workshop,* edited by P. Louvet, P. Noe and Soubbaramayer, Centre d'Etudes Nuclearaires de Saclay, France, pp. 433-443, 1989.

5. J. Mang, E. Minkov, U. Schaflinger, M. Ungarish "Particle Entrainment in a Bounded Rotating Flow with a Drain," *Proceedings of the ASME*, edited by D. T. Valentine and C. C. Jahnke, OED-Vol. 14, pp. 67-71, 1997.

6. M. Ungarish "Centrifugal sedimentation processes in suspensions - fundamentals and challenges of efficient simulation", *Sedimentation and Sediment Transport, Proceedings of the Symposium held in Monte Verita Sept. 2002*, edited by A. Gyr and W. Kinzelbach.

NOTE: See also section e below.

e) Survey, Keynote and Invited Papers

1. M. Ungarish, "Modeling, Simulation and Comprehension of Separating Particle-Fluid Flows," invited for *Separation Phenomena in Liquids and Gases, Second Workshop*, Versailles, France, published in Proceedings edited by P. Louvet, P. Noe and Soubbaramayer, Centre d'Etudes Nuclearaires de Saclay, France, pp. 445-475, 1989.

2. M. Ungarish, "On Recent Developments in the Theory of Centrifugal Separation of Suspensions," invited for *Separation Phenomena in Liquids and Gases, Third Workshop* , Charlottesville, Virginia, USA, published in Proceedings edited by H.G. Wood, Un. of Virginia, pp. 1-6, 1992.

3. M. Ungarish, "Recent Developments in the Analysis of Centrifugal Separations and Unfolding Challenges in the Classic Theory of Rotating Fluids," Keynote lecture, *EUROMECH 336 Colloquium on Flows Dominated by Centrifugal and Coriolis Forces,* Trondheim, Norway, June 1995.

4. M. Ungarish, "Recent Developments in the Analysis of Gravity and Centrifugal Separation of Non-Colloidal Suspensions and Unfolding Challenges in the Classic Mechanics of Fluids," CISM - Int. Centre for Mechanical Sciences course and meeting on *Flow of Particles in Suspensions*, Udine, Italy, October 1995.

5. M. Ungarish, "Modeling and Simulation of Rotating Buoyant Suspensions - Fundamentals and Challenges," Keynote lecture, *1997 International Mechanical Engineering Congress (ASME), Symposium on rotating and buoyancy-driven flows*, Dallas, USA, November 1997, published in Proceedings of the ASME edited by Valentine D. T. and Jahnke C. C. (OED-Vol. 14, pp. 53-66).

6. M. Ungarish, "On Axisymmetric Gravity Currents: results and open questions for the rotating and/or particle-driven cases," Invited lecture, *1999 Annual Meeting of the L. Euler Swiss Center of European Res. Community on Flow, Turbulence and Combustion (ERCOFTAC), topic "Multiphase Flow"*, Zurich, Switzerland, November 1999.

7. M. Ungarish, "Spin-up from rest of multi-layer and stratified fluids about a vertical axis," Invited lecture, *Fundamentals of Fluid Flow meeting 2001 (FFF2001)*, BP Institute, Cambridge, UK, December 2001.

8. M. Ungarish, G. Seiden, G. Lipson, "The role of inertial waves in the pattern formation of a suspension in a cylinder rotating about a horizontal axis at small Ekman and Rossby numbers," IUTAM Symposium on Recent Advances in Multiphase Flows: Numerical and experimental, Istanbul, Turkey, June 2007.

9. M. Ungarish, "Theoretical investigations of gravity currents and intrusions in linearly stratified ambients," Plumes and Gravity Currents in Stratified Environments workshop, Edmonton, Canada, October 2007.

10. M. Ungarish, "Models for Gravity Currents and Intrusions: from complex physics to simple mathematics and back to applications," plenary lecture for Mathematical Models and Methods in Modern Science IEEEAM meeting, Puerto De la Cruz, Tenerife, Spain, December 2011.

11. M. Ungarish, "Gravity currents in non-rectangular channels and in bi-stratified systems," Workshop on Environmental and Extreme Multiphase Flows, Gainesville, Fl., USA, March 2012.

12. M. Ungarish, "The Flow of Gravity Currents and Intrusions: A Test-Case for the Power and Limitations of Simple Mathematical Models in the Prediction of Complex Phenomena" plenary lecture 11th International Conference on Fluid Mechanics and Aerodynamics (FMA '13), Vouliagmeni, Athens, Greece May 14-16, 2013.