

Juncheol Pyo

PRESENT ADDRESS

Department of Mathematics
Pusan National University
Busan 46241, Korea

PERSONAL INFORMATION

Nationality: Republic of Korea
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Member of Korean Mathematical Society

EDUCATION

March 2003 - February 2010

Ph.D. in Mathematics, at Seoul National University, Korea
Thesis Advisor: Jaigyoung Choe

March 1998 - February 2002

Bachelor's Degree in Mathematics Education at Korea National University of Education, Korea

RESEARCH INTERESTS

Differential Geometry, Geometric Analysis
Minimal Surfaces, Constant mean curvature surfaces,
Solitons for (inverse) Mean Curvature Flow,

PROFESSIONAL APPOINTMENTS

September 2020 - Present

Professor, Pusan National University

August 2018 - August 2019

Visiting Professor, University of British Columbia in Canada

September 2015 - August 2020

Associate professor, Pusan National University

September 2015 - August 2017

Chair of Department, Pusan National University

September 2011 - August 2015

Assistant professor, Pusan National University

March 2016 - Present

Editor for Journal of the Korean Mathematical Society(JKMS)

March 2010 - August 2011

Postdoctoral Fellow, KIAS

PUBLICATION LIST

- Minimal annuli with constant contact angle along the planar boundaries. *Geom. Dedicata* 146 (2010), 159-164.
- Maximal annuli with parallel planar boundaries in the three-dimensional Lorentz-Minkowski space. *Bull. Aust. Math. Soc.* 81 (2010), no. 2, 208-222.
- Relative isoperimetric inequality for minimal submanifolds in a Riemannian manifold. *J. Inequal. Appl.* 2010, Art. ID 758623, 12 pp.
- Regularity of soap film-like surfaces spanning graphs in a Riemannian manifold. *J. Korean Math. Soc.* 47 (2010), no. 5, 967-983. (with Gulliver, Robert; Park, Sung-Ho; Seo, Keomkyo)
- New complete embedded minimal surfaces in $H^2 \times R$, *Ann. Global Anal. Geom.* 40 (2011), no. 2, 167-176.

- Spacelike capillary surfaces in the Lorentz-Minkowski space(with K. Seo), Bull. Aust. Math. Soc. 84. (2011) 362-371.
- Remarks on minimal annuli in a slab, Archiv der Mathematik (Basel) 98 (2012) 193-198
- Singly-periodic minimal surfaces in $H^2 \times R$, Bull. KMS. 49 (2012) 1089-1099.
- Spacelike surfaces with free boundary in the Lorentz-Minkowski space(with R. Lopez), Class. Quam. Grav. 29 (2012) no. 3
- Simply-connected minimal surfaces with finite total curvature in $H^2 \times R$, Int. Math. Res. Not. IMRN 2014, no. 11, 2944-2954.
- Constant mean curvature surfaces with boundary on a sphere(with R. Lopez), Applied Mathematics and Computation. 220 (2013) 316-323.
- Capillary surfaces of constant mean curvature in a right solid cylinder(with R. Lopez), Mathematische Nachrichten. 287 (2014) 1312-1319.
- Capillary surfaces in a cone(with R. Lopez), Journal of Geometry and Physics. 76 (2014) 256-262.
- Some isoperimetric inequalities and eigenvalue estimates in weighted manifolds (with M. Batista, M.P. Cavalcante), Journal of Mathematical Analysis and Applications. 419 (2014) 617-626.
- Compact translating solitons with non-empty planar boundary, Differential Geom. Appl. 47 (2016) 79-85.
- Translating solitons foliated by spheres (with Daehwan Kim), International J. Math. 28 (2017) 1750006.
- Free boundary minimal hypersurface with spherical boundary (with Sung-Ho Park) Mathematische Nachrichten. 290 (2017) 885-889.
- Rigidity theorems of minimal surfaces foliated by similar planar curves (with Daehwan Kim) Results in Math. 72 (2017), no. 4, 1697-1716.
- Weighted Hsiung-Minkowski formulas and rigidity of umbilical hypersurfaces with (K. Kwong, and H. Lee) Math. Res. Lett. 25 (2018), no. 2, 597-616.
- Existence and asymptotic behavior of helicoidal translating solitons of the mean curvature flow. (with Daehwan Kim) Discrete Contin. Dyn. Syst. 38 (2018), no. 11, 5897-5919.
- Rigidity theorems of hypersurfaces with free boundary in a wedge in a space form. Pacific J. Math. 299 (2019), no. 2, 489-510.
- $O(m) \times O(n)$ -invariant homothetic solitons for inverse mean curvature flow in R^{m+n} . (with Daehwan Kim) Nonlinearity 32 (2019), no. 10, 3873-3911.
- Harmonic 1-forms on immersed hypersurfaces in a Riemannian manifold with weighted Bi-Ricci curvature bounded from below. (with Dung, Nguyen Thac and Duc, Nguyen Van) J. Math. Anal. Appl. 484 (2020), no. 1, 123693, 29 pp
- Remarks on solitons for inverse mean curvature flow. (with Daehwan Kim) Math. Nachr. 293 (2020), no. 12, 2363-2369.
- Rigidity results of free boundary maximal hypersurfaces in the region bounded by a de Sitter space. (with Sangwoo Park) Classical Quantum Gravity 37 (2020), no. 21, 215018, 9 pp.
- Half-space type theorem for translating solitons of the mean curvature flow in Euclidean space. (with Daehwan Kim) Proc. Amer. Math. Soc. Ser. B 8 (2021), 1-10.
- Rigidity of minimal hypersurfaces with free boundary in a ball. (with Sangwoo Park) Geom. Dedicata 216 (2022), no. 3, Paper No. 27, 9 pp.
- Properness of translating solitons for the mean curvature flow. (with Sangwoo Park) Internat. J. Math. 33 (2022), no. 4, Paper No. 2250032, 6 pp.
- Chern-Ricci harmonic functions on zero mean curvature surfaces in the three-dimensional Lorentz-Minkowski space and the rigidity of Enneper's surface. (with Sangwoo Park) J. Math. Anal. Appl. 514 (2022), no. 1, Paper No. 126371, 14 pp.

- Properness of translating solitons for the mean curvature flow. (with Daehwan Kim) *Internat. J. Math.* 33(2022), no.4, Paper No. 2250032, 6 pp.
- First $\frac{2}{n}$ -stability eigenvalue of singular minimal hypersurfaces in space forms. (with Dung, Ha Tuan and Dung, Nguyen Thac) *Ann. Global Anal. Geom.* 63 (2023), no. 1, Paper No. 1, 9 pp.
- First stability eigenvalue of singular hypersurfaces with constant mean curvature in the unit sphere (with Dung, Nguyen Thac and Tran, Hung) *Proc. Amer. Math. Soc.* 151 (2023), no. 2, 795-810.
- Backward uniqueness for the inverse mean curvature flow. (with Pak Tung Ho) *Geom. Dedicata* 217 (2023), no. 2, Paper No. 41, 6 pp.
- Sobolev inequality and isoperimetric inequality for submanifolds in a smooth metric measure space. (with Pak Tung Ho) *Internat. J. Math.* 34 (2023), no. 5, Paper No. 2350027, 21 pp.
- Rigidity results for mean curvature flow graphical translators moving in non-graphical direction. (with John Man Shun Ma and Yuan Shyong Ooi) *Proc. Amer. Math. Soc.* 151 (2023), no. 12, 5391–5402.
- Evolution of the first eigenvalue along the inverse mean curvature flow in space forms. (with Pak Tung Ho) *J. Math. Anal. Appl.* 532 (2024), no. 1, Paper No. 127980, 19 pp.
- First eigenvalues of free boundary hypersurfaces in the unit ball along the inverse mean curvature flow. (with Pak Tung Ho) *Differential Geom. Appl.* 93 (2024), Paper No. 102095, 8 pp.
- Rigidity theorems of λ -translating solitons in Euclidean and Lorentz-Minkowski spaces. (with Jihyeon Lee and Eungmo Nam) *Ann. Mat. Pura Appl.* (4) 203 (2024), no. 1, 297–315.
- The first nonzero eigenvalue of the (p, q) -Laplace system along the inverse mean curvature flow with forced term. (with Shyamal Kumar Hui and Apurba Saha) *J. Math. Anal. Appl.* 536 (2024), no. 2, Paper No. 128247, 9 pp.
- Rigidity results of weighted area-minimizing hypersurfaces. (with Sanghun Lee and Sangwoo Park) *Ann. Global Anal. Geom.* 65 (2024), no. 2, Paper No. 17, 14 pp.
- Calderón-Zygmund estimates for nonlinear equations of differential forms with BMO coefficients. (with Mikyoung Lee and Jihoon Ok) *J. Differential Equations* 397 (2024), 262–288.
- Spectral constant rigidity of warped product metrics. (Xiaoxiang Chai and Xueyuan Wan) *J. Lond. Math. Soc.* (2) 110 (2024), no. 1, Paper No. e12958.