

Stanford



Otis Chodosh

Associate Professor of Mathematics

Bio

ACADEMIC APPOINTMENTS

- Associate Professor, Mathematics

LINKS

- <http://web.stanford.edu/~ochodosh/>: <http://web.stanford.edu/~ochodosh/>

Teaching

COURSES

2025-26

- Differential Geometry: MATH 215C (Spr)

2024-25

- Fundamental Concepts of Analysis: MATH 171 (Spr)
- Proofs and Modern Mathematics: MATH 56 (Aut)
- Topics in Differential Geometry: MATH 286 (Win)

2023-24

- Differential Topology: MATH 147 (Spr)
- Topics in Harmonic Analysis: MATH 205C (Spr)

2022-23

- Differential Geometry: MATH 215C (Spr)

STANFORD ADVISEES

Orals Chair

Rory O'Dwyer

Postdoctoral Faculty Sponsor

Filippo Gaia, Douglas Stryker

Doctoral (Program)

Haotian Xue

Publications

PUBLICATIONS

- **3-Manifolds With Positive Scalar Curvature and Bounded Geometry** *COMMUNICATIONS ON PURE AND APPLIED MATHEMATICS*
Chodosh, O., Lai, Y., Xu, K.
2026
- **Revisiting generic mean curvature flow in \mathbb{R}^3** *JOURNAL FÜR DIE REINE UND ANGEWANDTE MATHEMATIK*
Chodosh, O., Choi, K., Mantoulidis, C., Schulze, F.
2025
- **MEAN CURVATURE FLOW WITH GENERIC LOW-ENTROPY INITIAL DATA II** *DUKE MATHEMATICAL JOURNAL*
Chodosh, O., Mantoulidis, C., Schulze, F.
2025; 174 (13): 2765-2819
- **Mean curvature flow from conical singularities** *INVENTIONES MATHEMATICAE*
Chodosh, O., Daniels-Holgate, J. M., Schulze, F.
2024
- **On minimizers in the liquid drop model** *COMMUNICATIONS ON PURE AND APPLIED MATHEMATICS*
Chodosh, O., Ruohoniemi, I.
2024
- **MEAN CURVATURE FLOW WITH GENERIC LOW-ENTROPY INITIAL DATA** *DUKE MATHEMATICAL JOURNAL*
Chodosh, O., Choi, K., Mantoulidis, C., Schulze, F.
2024; 173 (7): 1269-1290
- **Mean curvature flow with generic initial data** *INVENTIONES MATHEMATICAE*
Chodosh, O., Choi, K., Mantoulidis, C., Schulze, F.
2024
- **Generalized soap bubbles and the topology of manifolds with positive scalar curvature** *ANNALS OF MATHEMATICS*
Chodosh, O., Li, C.
2024; 199 (2): 707-740
- **Stable minimal hypersurfaces in \mathbb{R}^4** *ACTA MATHEMATICA*
Chodosh, O., Li, C.
2024; 233 (1): 1-31
- **VOLUME GROWTH OF 3-MANIFOLDS WITH SCALAR CURVATURE LOWER BOUNDS** *PROCEEDINGS OF THE AMERICAN MATHEMATICAL SOCIETY*
Chodosh, O., Li, C., Stryker, D.
2023
- **The p -widths of a surface** *PUBLICATIONS MATHÉMATIQUES DE L'IHÉS*
Chodosh, O., Mantoulidis, C.
2023
- **ON THE TOPOLOGY AND INDEX OF MINIMAL SURFACES II** *JOURNAL OF DIFFERENTIAL GEOMETRY*
Chodosh, O., Maximo, D.
2023; 123 (3): 431-459
- **Stable anisotropic minimal hypersurfaces in \mathbb{R}^4** *FORUM OF MATHEMATICS PI*
Chodosh, O., Li, C.
2023; 11
- **The Riemannian quantitative isoperimetric inequality** *JOURNAL OF THE EUROPEAN MATHEMATICAL SOCIETY*
Chodosh, O., Engelstein, M., Spolaor, L.

2023; 25 (5): 1711-1741

- **Classifying sufficiently connected PSC manifolds in 4 and 5 dimensions** *GEOMETRY & TOPOLOGY*
Chodosh, O., Li, C., Liokumovich, Y.
2023; 27 (4): 1635-1655
- **p GLOBAL UNIQUENESS OF LARGE STABLE CMC SPHERES IN ASYMPTOTICALLY FLAT RIEMANNIAN 3-MANIFOLDS** *DUKE MATHEMATICAL JOURNAL*
Chodosh, O., Eichmair, M.
2022; 171 (1): 1-31
- **UNIQUENESS OF ASYMPTOTICALLY CONICAL TANGENT FLOWS** *DUKE MATHEMATICAL JOURNAL*
Chodosh, O., Schulze, F.
2021; 170 (16): 3601-3657
- **Minimal Hypersurfaces with Arbitrarily Large Area** *INTERNATIONAL MATHEMATICS RESEARCH NOTICES*
Chodosh, O., Mantoulidis, C.
2021; 2021 (14): 10841-10847
- **Isoperimetry, Scalar Curvature, and Mass in Asymptotically Flat Riemannian 3-Manifolds** *COMMUNICATIONS ON PURE AND APPLIED MATHEMATICS*
Chodosh, O., Eichmair, M., Shi, Y., Yu, H.
2021; 74 (4): 865–905
- **Stationary axisymmetric black holes with matter** *COMMUNICATIONS IN ANALYSIS AND GEOMETRY*
Chodosh, O., Shlapentokh-Rothman, Y.
2021; 29 (1): 19–76
- **On far-outlying constant mean curvature spheres in asymptotically flat Riemannian 3-manifolds** *JOURNAL FÜR DIE REINE UND ANGEWANDTE MATHEMATIK*
Chodosh, O., Eichmair, M.
2020; 767: 161–91
- **Minimal surfaces and the Allen-Cahn equation on 3-manifolds: index, multiplicity, and curvature estimates** *ANNALS OF MATHEMATICS*
Chodosh, O., Mantoulidis, C.
2020; 191 (1): 213–328
- **Curvature estimates and sheeting theorems for weakly stable CMC hypersurfaces** *ADVANCES IN MATHEMATICS*
Bellettini, C., Chodosh, O., Wickramasekera, N.
2019; 352: 133–57
- **Characterization of Large Isoperimetric Regions in Asymptotically Hyperbolic Initial Data** *COMMUNICATIONS IN MATHEMATICAL PHYSICS*
Chodosh, O., Eichmair, M., Shi, Y., Zhu, J.
2019; 368 (2): 777–98
- **A Splitting Theorem for Scalar Curvature** *COMMUNICATIONS ON PURE AND APPLIED MATHEMATICS*
Chodosh, O., Eichmair, M., Moraru, V.
2019; 72 (6): 1231–42
- **Asymptotically flat three-manifolds contain minimal planes** *ADVANCES IN MATHEMATICS*
Chodosh, O., Ketover, D.
2018; 337: 171–92
- **Time-Periodic Einstein-Klein-Gordon Bifurcations of Kerr** *COMMUNICATIONS IN MATHEMATICAL PHYSICS*
Chodosh, O., Shlapentokh-Rothman, Y.
2017; 356 (3): 1155–1250
- **Minimal hypersurfaces with bounded index** *INVENTIONES MATHEMATICAE*
Chodosh, O., Ketover, D., Maximo, D.
2017; 209 (3): 617–64

- **ISOPERIMETRIC STRUCTURE OF ASYMPTOTICALLY CONICAL MANIFOLDS** *JOURNAL OF DIFFERENTIAL GEOMETRY*
Chodosh, O., Eichmair, M., Volkman, A.
2017; 105 (1): 1–19
- **Effective versions of the positive mass theorem** *INVENTIONES MATHEMATICAE*
Carlotto, A., Chodosh, O., Eichmair, M.
2016; 206 (3): 975–1016
- **ON THE TOPOLOGY AND INDEX OF MINIMAL SURFACES** *JOURNAL OF DIFFERENTIAL GEOMETRY*
Chodosh, O., Maximo, D.
2016; 104 (3): 399–418
- **Rotational symmetry of conical Kahler-Ricci solitons** *MATHEMATISCHE ANNALEN*
Chodosh, O., Fong, F.
2016; 364 (3-4): 777–92
- **Large Isoperimetric Regions in Asymptotically Hyperbolic Manifolds** *COMMUNICATIONS IN MATHEMATICAL PHYSICS*
Chodosh, O.
2016; 343 (2): 393–443
- **On the Maximum Curvature of Closed Curves in Negatively Curved Manifolds** *CANADIAN MATHEMATICAL BULLETIN-BULLETIN CANADIEN DE MATHÉMATIQUES*
Brendle, S., Chodosh, O.
2015; 58 (4): 713-722
- **On discontinuity of planar optimal transport maps** *JOURNAL OF TOPOLOGY AND ANALYSIS*
Chodosh, O., Jain, V., Lindsey, M., Panchev, L., Rubinstein, Y. A.
2015; 7 (2): 239-260
- **Slowly converging Yamabe flows** *GEOMETRY & TOPOLOGY*
Carlotto, A., Chodosh, O., Rubinstein, Y. A.
2015; 19 (3): 1523–68
- **A Volume Comparison Theorem for Asymptotically Hyperbolic Manifolds** *COMMUNICATIONS IN MATHEMATICAL PHYSICS*
Brendle, S., Chodosh, O.
2014; 332 (2): 839-846
- **Expanding Ricci solitons asymptotic to cones** *CALCULUS OF VARIATIONS AND PARTIAL DIFFERENTIAL EQUATIONS*
Chodosh, O.
2014; 51 (1-2): 1-15
- **A lack of Ricci bounds for the entropic measure on Wasserstein space over the interval** *JOURNAL OF FUNCTIONAL ANALYSIS*
Chodosh, O.
2012; 262 (10): 4570-4581
- **INFINITE MATRIX REPRESENTATIONS OF ISOTROPIC PSEUDODIFFERENTIAL OPERATORS** *METHODS AND APPLICATIONS OF ANALYSIS*
Chodosh, O.
2011; 18 (4): 351–72