

# SHOO SETO

## CURRICULUM VITAE

419 Rowland Hall, UC Irvine, CA 92617

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### Research Interests

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Partial Differential Equations, Geometric Analysis, Spectral Geometry

### Education

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**University of California, Irvine** — Irvine, CA

*Ph.D. Mathematics, June 2015*

Dissertation: *On the asymptotic expansion of the Bergman kernel*

Advisor: Zhiqin Lu

**University of California, Irvine** — Irvine, CA

*M.S. Mathematics, December 2011*

**University of California, Berkeley** — Berkeley, CA

*B.A. Mathematics (with departmental honors), May 2009*

### Positions Held

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**University of California, Irvine** — Irvine, CA

*Lecturer, Math CEO coordinator*

Summer 2018 – Present

**Coastline College** — Newport Beach, CA

*Lecturer*

February 2019 – Present

**University of California, Santa Barbara** — Santa Barbara, CA

*Visiting Assistant Professor*

Fall 2015 – Spring 2018

### Honors and Awards

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AMS-Simons Travel Grant

2016 – 2018

UCI Mathematics Department Connelly Award (UC Irvine)

Spring 2015

*For maintaining an excellent record of teaching and research*

Dissertation Fellowship (UC Irvine)

Fall 2015

Departmental Fellowship (UC Irvine)

Winter 2014

Dean's Honor List (UC Berkeley)

Fall 2008

### Papers and Preprints

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1. *Asymptotic expansion of the Bergman kernel via perturbation of the Bargmann-Fock model (with H. Hezari, C. Kelleher, and H. Xu)*, J. Geom. Anal. **26**, (2016) no.4, 2602–2638
2. *Bergman kernel asymptotics through perturbation* Analysis and geometry in several complex variables, 179–184, Contemp. Math., **681**, Amer. Math. Soc. 2017
3. *First eigenvalue of the  $p$ -Laplacian under integral curvature condition (with G. Wei)* Nonlinear Anal. **163** 2017, pp 60–70,

4. *Fundamental gap estimate for convex domains on sphere – the case  $n = 2$* , (with X. Dai, G. Wei) to appear in *Communications in Analysis and Geometry* 2018
5. *First eigenvalue of the  $p$ -Laplacian on Kähler manifolds* (with C. Blacker) *Proc. Amer. Math. Soc.* **147** (2019) no. 5, pp 2197–2206
6. *Fundamental gap comparison*, (with X. Dai, G. Wei) *Surveys in Geometric Analysis* 2018, pp 1–16, Science Press Beijing, Beijing, 2019
7. *Sharp Fundamental Gap Estimate on Convex Domains of Sphere* (with L. Wang and G. Wei) *Journal of Differential Geometry*, **112** (2019), no. 2 pp 347–389
8. *Zhong-Yang type estimate under integral curvature condition*, (with X. Ramos Olivé, G. Wei, Q Zhang), *Mathematische Zeitschrift* (2019) <https://doi.org/10.1007/s00209-019-02448-w>
9. *The first eigenvalue value of the  $p$ -Laplacian on differential forms*, arXiv:1903.05840, 2019
10. *Agmon-type estimate of the Bergman kernel*, (with Z. Lu), (preprint), 2019

## Teaching Experience

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<b>Lecturer at Coastline College:</b> Math 120 (Trigonometry) Math 160 (Statistics)	February 2019 – Present
<b>Lecturer at U.C. Irvine:</b> Math 2 A/B/D/E (Calculus Sequence) Math 5 A (Calculus for Life Science) Math 9 (Intro to Programming for Numerical Analysis) Math 112C (Partial Differential Equations)	Summer 2018 – Present
<b>Visiting Assisitant Professor at U.C. Santa Barbara:</b> Math 3 A/B, 6A (Calculus Sequence) Math 4 B (Differential Equations) Math 122 B (Complex Analysis) Math 124 A/B (Partial Differential Equations) Math 147 A (Differential Geometry) Math 199 (Reading course on advanced differential geometry topics)	Fall 2015 – Spring 2018

## Selected Seminar and Conference Talks

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<i>Joint Mathematics Meeting,</i> <i>Denver, Colorado</i>	(scheduled) January 2020
<i>AMS Western Sectional Meeting,</i> <i>University of California, Riverside</i>	(scheduled) November 2019
<i>Differential Geometry Seminar,</i> <i>University of California, Irvine</i>	October 2019
<i>AMS Western Sectional Meeting,</i> <i>San Francisco State University, California</i>	October 2018
<i>Tohoku-Osaka Nonlinear Dispersive Equations Seminar,</i> <i>Okayama Science University, Japan</i>	August 2018

<b>Differential Geometry Seminar,</b> University of California, Riverside	April 2018
<b>Joint Mathematics Meeting,</b> San Diego, California	January 2018
<b>AMS Western Sectional Meeting,</b> University of California, Riverside	November 2017
<b>52nd Kansuron Summer Seminar,</b> Kyushu, Japan	September 2017
<b>Geometry and Analysis on Manifolds Conference,</b> University of California, Santa Barbara	April 2017
<b>Differential Geometry Seminar,</b> University of California, Irvine	February 2017
<b>Young Geometric Analyst Forum,</b> Tsingua Sanya International Mathematics Forum, China	January 2017
<b>Algebraic Geometry Seminar,</b> University of California, Santa Barbara	October 2016
<b>ECNU Workshop of Geometry and Analysis on Manifolds,</b> East China Normal University, China	July 2016
<b>62nd Geometry Symposium,</b> Tokyo University of Science, Japan	August 2015
<b>Young Mathematician Workshop on Several Complex Variables,</b> Tongji University, China	August 2015
<b>Differential Geometry Seminar,</b> University of California, Santa Barbara	May 2015
<b>Geometry-Topology Seminar,</b> California State University, Fullerton	April 2015
<b>Analysis and Geometry in Several Complex Variables,</b> Texas A & M at Qatar	January 2015
<b>Mathematics Graduate Student Colloquium,</b> UC Irvine	November 2014
<b>Young Mathematician Workshop on Several Complex Variables,</b> POSTECH, Korea	August 2014

## Service and Professional Activities

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<b>AMS Special Session on How to Discover and Train Gifted Students, Organizer</b>	January 2020
<b>Curriculum coordinator for UCI Math Outreach,</b>	August 2019 – Present
<b>Referee for Cogent Mathematics</b>	March 2018 – Present
<b>Judge for MAA Student Poster Session, Judge</b>	January 2018
Joint Mathematics Meeting, San Diego	
<b>Kähler geometry learning seminar, Organizer</b>	September 2017 – December 2017
University of California, Santa Barbara	
<b>Differential Geometry Seminar, Organizer</b>	April 2017 – June 2018
University of California, Santa Barbara	
<b>Extremal Kähler metrics learning seminar, Organizer</b>	January–March 2016
University of California, Santa Barbara	

**Referee for the *Proceedings of the AMS***

**UCI Math Circle**

UC, Irvine

**Intel 2014 Science Fair Judge**

UC, Irvine

June 2016 – Present

October 2014–Present

April 2014

## Other Skills

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**Fluent in Japanese**

**Computer languages**

Basic programming in: C++, Java

Experience in MATLAB, Mathematica, Python