

Casey P. Rodriguez

CONTACT INFORMATION	Department of Mathematics UNC-CH CB 3250 329 Phillips Hall Chapel Hill, NC 27599	<i>E-mail:</i> crodrig@email.unc.edu <i>Citizenship:</i> United States of America
APPOINTMENTS	The University of North Carolina at Chapel Hill , Chapel Hill, NC Assistant Professor	2021-Present
	Massachusetts Institute of Technology , Cambridge, MA NSF Postdoctoral Fellow, Sponsoring scientist - Gigliola Staffilani CLE Moore Instructor	2017-2021
EDUCATION	University of Chicago , Chicago, IL PhD, Mathematics, Advisor - Carlos E. Kenig	2011-2017
	Texas A&M University , College Station, TX MS, Mathematics, Committee Chair - Harold P. Boas	2010-2011
	Texas A&M University , College Station, TX BS, Applied Mathematical Sciences, Summa Cum Laude, Honors in Mathematics	2007-2010
RESEARCH INTERESTS	Analysis, partial differential equations, continuum mechanics	
PAPERS AND PREPRINTS	<ol style="list-style-type: none">(with K. R. Rajagopal) On an elastic strain-limiting special Cosserat rod model. <i>Preprint</i> (2022), arXiv: 2205.10875, 23 pages.(with M. Bulicek, J. Malek) Global well-posedness for two dimensional flows of viscoelastic rate-type fluids with stress diffusion. <i>J. Math. Fluid Mech.</i>, 24:61 (2022), 19 pp.(with K. R. Rajagopal) On evolving natural curvature for an inextensible, unshearable, viscoelastic rod. <i>Preprint</i> (2022), arXiv: 2201.10046, 22 pages.Longitudinal shock waves in a class of semi-infinite stretch-limited elastic strings. <i>Math. Mech. Solids</i>, vol. 27, no. 3, Mar. 2022, pp. 474–490.On stretch-limited elastic strings. <i>Proc. R. Soc. Lond. A</i> (2021), 477: 20210181, 15 pp.(with F. Bemfica, M. Disconzi, Y. Shao) Local well-posedness in Sobolev spaces for first-order conformal relativistic viscous hydrodynamics. <i>Commun. Pure Appl. Anal.</i> 2021, 20(6): 2279-2290.(with J. Jendrej, A. Lawrie) Dynamics of bubbling wave maps with prescribed radiation. <i>Ann. Sci. de l'ENS.</i>, to appear.	

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8. Threshold dynamics for corotational wave maps.
Analysis and PDE, Vol. 14 (2021), No. 7, 2123-2161.
 9. (with A. Lawrie) Conditional stable soliton resolution for a semi-linear Skyrme equation.
Ann. PDE (2019), no. 2, Paper No. 15, 59 pp.
 10. Soliton resolution for equivariant wave maps on a wormhole.
Comm. Math. Phys. 359 (2018), no. 1, 375–426.
 11. Soliton resolution for corotational wave maps on a wormhole.
Int. Math. Res. Not. IMRN, (15): 4603-4706, 2019.
 12. Scattering for radial energy-subcritical wave equations in dimensions 4 and 5.
Comm. Partial Differential Equations 42 (2017), 852–894.
 13. Profiles for the radial focusing energy-critical wave equation in odd dimensions.
Adv. Differential Equ., 21 (2016), 505-570.
 14. A partial data result for less regular conductivities in admissible geometries.
Inverse Probl. Imag., 10 (2016), 247-262.

AWARDS,
FELLOWSHIPS

Massachusetts Institute of Technology, Cambridge, MA

Infinite Kilometer Award (2020)
NSF Postdoctoral Research Fellowship (2017-2020)

University of Chicago, Chicago, IL

Wirszup Fellowship (2017)
Physical Sciences Division Teaching Prize (2016)
Lawrence and Josephine Graves Teaching Prize (2015)

INVITED AND
CONTRIBUTED
TALKS

Applied Math and Analysis Seminar, Duke University (Spring 2022)
ICERM, Brown University (Fall 2021)
Analysis and PDE Seminar, The University of North Carolina at Chapel Hill (Fall 2021)
Mathematical Congress of the Americas (Summer 2021)
PDE CDT Seminar, University of Oxford (Spring 2021)
Colloquium, The University of North Carolina at Chapel Hill (Fall 2020)
Mathematical Physics and Harmonic Analysis Seminar, Texas A&M University (Fall 2020)
Online North-East PDE and Analysis Seminar (ONEPAS), (Summer 2020)
Colloquium, Rutgers University (Spring 2020)
Applied Math and Analysis Seminar, Duke University (Fall 2019)
Calderón-Zygmund Analysis Seminar, University of Chicago (Spring 2019)
Partial Differential Equations Seminar, Brown University (Spring 2019)
Analysis and Partial Differential Equations Seminar, Johns Hopkins University (Spring 2019)
Analysis and Partial Differential Equations Seminar, UMass Amherst (Spring 2019)
Analysis and Partial Differential Equations Seminar, MIT (Fall 2018)
FRG Conference, Princeton University (Fall 2017)
Dynamical Systems Seminar, Boston University (Fall 2017)
Geometric Analysis Colloquium, The Fields Institute (Spring 2017)
Joint Mathematics Meetings, Atlanta (Spring 2017)
FRG Conference, MIT (Fall 2016)
Calderón-Zygmund Analysis Seminar, University of Chicago (Spring 2016)

PROFESSIONAL
SERVICE AND
ACTIVITIES

Hiring Committee member for departmental job search, UNC, 2021
Faculty advisor for the UNC Achordants, UNC
Undergraduate Research Opportunities Program (UROP) Mentor, MIT
Undergraduate math double-major advisor, MIT
Organizer for the MIT PDE/Analysis Reading Seminar, MIT

Co-organizer for the MIT PDE/Analysis Seminar, MIT
Diversity and Community Building Committee member, MIT
Organizer for “Mentoring Dinners”: organized informal dinners to foster interaction between junior faculty and postdocs, MIT
Mentor for the Summer Bootcamp in Analysis (directed by Wilhelm Schlag), University of Chicago
Mentor for the Chicago Summer School in Analysis, University of Chicago
Mentor for the University of Chicago Directed Reading Program, University of Chicago
Mentor for the University of Chicago REU (directed by Peter May) University of Chicago

TEACHING
EXPERIENCE

The University of North Carolina at Chapel Hill, Chapel Hill, NC **2021-Present**

Math 232: Calculus of Functions of One Variable II (Spring 2022)
Math 523: Functions of a Complex Variable with Applications (Fall 2021)

Massachusetts Institute of Technology, Cambridge, MA **2018-2021**

Course 18.102/18.1021: Introduction to Functional Analysis (Spring 2021)
Course 18.1001/18.100A: Real Analysis (Fall 2020)
Course 18.1001/18.100A: Real Analysis (Fall 2019)
Course 18.1002/18.100B: Real Analysis (Spring 2019)

University of Chicago, Chicago, IL **2011-2017**

Math 162: Honors Calculus II (Spring 2017)
Math 161: Honors Calculus I (Fall 2016)
Math 153: Calculus III (Fall 2015)
Vectors and Linear Transformations (Collegiate Scholars Program) (Summer 2015)
Math 196: Linear Algebra (Fall 2014)
Calculus (CAAP program) (Summer 2014)
Algebra for Elementary School Teachers (SESAME program) (Spring 2014)
Math 132: Elementary Functions and Calculus II (Spring 2014)
Math 131: Elementary Functions and Calculus I (Fall 2013)