

# James Benn

Research Scientist & Technical Writer



## Personal

James Benn  
Nationality: New Zealand  
DOB: 1987

## Soft skills

A curious and patient listener  
• Very strong written communication and presentation skills  
• A diplomat who leads by giving people what they need to perform.

## Professional Interests

I'm a technical writer and research scientist working in mathematics and statistics. I'm interested in statistics, mathematics, and scientific computing for industrial engineering, and producing and maintaining technical documentation of all kinds.

## Areas of specialization

Mathematics • Statistics for Medical Shape & Image Analysis • SP and Quality Control for Manufacturing  
• Software for Civil Engineering Applications  
• Technical Writing • Research  
• Teaching • Supervision

@jbenn2@alumni.nd.edu

Personal Website

Iksiri

## RESUMÉ

2020-now	<b>Research Scientist</b> INRIA · France PhD student supervision, manuscript and presentation supervision, independent researcher in statistics for non-linear data.	
2019-2020	<b>Senior Claims Analyst</b> MINISTRY FOR PRIMARY INDUSTRIES · New Zealand Business performance analyst, and legal memoranda draftsman.	
2018	<b>Visiting Researcher</b> BU-ALI-SINA UNIVERSITY & GOETHE UNIVERSITY · Iran & Germany Independent researcher in the geometry and analysis of hydrodynamics.	
2018	<b>Construction &amp; Maintenance Quality Control Analyst</b> HIGGINS CONSTRUCTION · New Zealand Asset Management; Statistical process control automation; and road surface quality protocol automation.	
2016-2017	<b>Postdoctoral Researcher and Lecturer</b> MASSEY UNIVERSITY · New Zealand Graduate and undergraduate course instructor, independent researcher.	
2015-2016	<b>Statistical Consultant</b> MID-CENTRAL DISTRICT HEALTH BOARD · New Zealand Emergency department patient-flow modeling, and resource allocation.	

## DEGREES

2015	<b>PhD Mathematics</b> UNIVERSITY OF NOTRE DAME · IN, USA	
2012	<b>M.A. Mathematics</b> UNIVERSITY OF NOTRE DAME · IN, USA	
2009	<b>BInfSc Mathematics and Statistics</b> MASSEY UNIVERSITY · New Zealand	

## PROGRAMMING



## PRESENTATIONS

May 2024	"Right-Invariant Geometry of Lie Groups", at: <i>Geometric Sciences in Action</i> CIRM, Marseille, France.
Mar 2023	"Conjugate Points on $\mathcal{D}_\mu(S^2)$ ; but what are they really?", at: <i>Maynooth University</i> Ireland.
Nov 2021	"The Measurement and Analysis of Shapes", at: <i>Universite Paris 1 (Pantheon Sorbonne)</i> , <i>SAMM Seminar</i> Paris, France

## RECENT PUBLICATIONS

2024	with S. Marsland, <i>Delta-type 1-Forms and Knots as Weak Coadjoint Orbits</i> (in preparation)
2024	with J. Harrison, <i>Improving Neural Network Surface Processing with Principal Curvatures</i>
2023	with M. Pederson, <i>Principal Subbundles for Dimension Reduction</i>
2022	with S. Marsland, <i>A Setting for the Measurement and Analysis of Shape</i>
2021	<i>Conjugate Points on <math>\mathcal{D}_\mu(S^2)</math></i>