Harmonic Analysis

John J. Benedetto

Fourier analysis on R^d

Fourier analysis on $T = R/Z$

Fourier analysis on Z/nZ

LCAGs (structure theory)

Non-abelian groups

L^1-theory

Banach Algebras

Inversion & representation theory

"Euclidean"

Compact open subgroups

Bounded measures

Special case: p-adics

L^2-theory

L^∞-theory

Wiener's GHA

Heisenberg groups

Affine groups

Shearlet groups

Distribution theory & exchange formulas

Spectral synthesis and Banach algebras

Uncertainty principles & Poisson summation

Gabor & wavelet theories

Power spectra & phase reconstruction

Correlations

Frames

Kolmogorov theory

Hauptman (UMD Math Ph.D. & Nobel)

Recent developments

Sampling

Waveform design

Continuous and discrete ambiguity analysis