

Professor Chao Ma

Department of Engineering Science
Faculty of Innovation Engineering
Macau University of Science and Technology

PhD. Supervisor

Office: A424

Tel. : +853-88972822

E-mail : cma@must.edu.mo

Academic Qualification:

2002-2005 Ph.D/Applied Mathematics/Wuhan University

Teaching Area

Calculus Linear Algebra Advanced Mathematics Medical Statistics

Research Area

Fractal Geometry and its Applications

Working Experience

2022.7- Professor/Faculty of Innovation Engineering /Macau University of Science and Technology

2013.7- Program Co-ordinator of Maths Team/DGE-FIE/Macau University of Science and Technology

2015.7- 2022.6 Associate Professor/Faculty of Information Technology/Macau University of Science and Technology

2007.9-2015.6 Assistant Professor/DGE/Macau University of Science and Technology

2005.9-2007.8 Postdoctoral Fellow/ Nanjing University

Academic Publication (selected)

Y. Han, S.Xu and **C.Ma***, Generalized Kannan-type contraction and fixed point theorems, Appl. Math. J. Chinese Univ.2023, 38(2): 235-247.

C.Ma,S.Pe, and et al, Disparity estimation based on fusion of vision and LiDAR, International Journal of Wavelets, Multiresolution and Information Processing, 2022, Vol. 20, No. 05, 2250014.

Q.Xiao, **C.Ma** and S.Wang, On the Eventually Periodic Continued β -Fractions and Their Lévy Constants, Mathematics, Basel Vol. 10, Iss. 1, (2022): 127.

C.Ma, L.Shen, and et al, Synaptic cleft segmentation method based on fractal dimension for ATUM-SEM image of mouse cortex, International Journal of Wavelets, Multiresolution and Information Processing, 2022, Vol. 20,

L.Huang, **C.Ma***, A dimensional result on the product of consecutive partial quotients in continued fractions, Journal of the Australian Mathematical Society, Oct 2021, 113(3), 357-385.

M. Zhang, **C.Ma***, On the exceptional sets concerning the leading partial quotient in continued fractions, JOURNAL OF

Y.Han, **C.Ma***, Uniform Diophantine approximation to Cantor series expansion. FRACTALS-COMPLEX GEOMETRY PATTERNS AND SCALING IN NATURE AND SOCIETY, 2021, Vol. 29, No. 07, 2150206.

F.Jing **C.Ma** and S.Wang, Metric theorems for continued β -fractions, Monatsh Math (2019). 190, pages 281–299.

C.Ma, B.Wang and J.Wu, Diophantine Approximation of the Orbits in Topological Dynamical Systems, Discrete and Continuous Dynamical Systems, May 2019, 39(5): 2455-2471.

C.Ma*, S.Zhang, Jarnik's Theorem Without the Monotonicity on the Approximating Function, FRACTALSCOMPLEX

H.Deng, **C.Ma*** and et al, Semi-supervised learning using autodidactic interpolation on sparse representation based multiple one-dimensional embedding, International Journal of Wavelets, Multiresolution and Information Processing, 2019, 17(3), 1950014.

H.Deng, **C.Ma*** and et al, A Method for Identification of Multisynaptic Boutons in Electron Microscopy Image Stack of Mouse Cortex, Appl. Sci. Jul 2019, 9(13), 2591;10.3390/app9132591.

Y.Chen,**C.Ma*** and J.Wu, Moving Recurrent Properties for the Doubling Map on the Unit Interval,Discrete and Continuous Dynamical Systems,Vol.36,no.6,June 2016,2969-2979.

C. Ma, S.Wang, Dynamical Diophantine approximation of beta expansions of formal Laurent series, Finite Fields and Their Applications, Volume 34, July 2015, Pages 176–191.

S.Xu, **C.Ma*** and Z.Zhou, A New Fixed Point Theorem of Quasi-Contractions on Cone Metric Space, Acta Sci. Nat. Uni. Sunyatseni, Vol.54, no.4, 2015.

B. Li, **C. Ma***, Finite and Infinite Arithmetic Progressions Related to Beta-Expansion, Abstract and Applied Analysis, Vol.2014, Article ID 678769, 6 pages.

Q.Xie, **C.Ma*** and et al., Image Fusion Based on the Δ^{-1} -TV0 Energy Function, Entropy, 2014, 16, 6099-

C. Ma, Q.Xie and H.Han, The Error-Sum Function of β Expansion, Mathematics in Practice and Theory, Vol.41, no.7, 2011,235-238.

C. Ma*,Y.Su Inhomogeneous Diophantine approximation over the field of formal Laurent series, Finite Fields and Their Applications, Volume 14, Issue 2, April 2008, 361-378.

Books

Research Grants (selected)

Fractal Dimension and Diophantine Approximation over the fields of formal series, FDCT, PI(MA CHAO),2012-2015.

Dimension Problems in Dynamical systems,FDCT, PI(MA CHAO),2015-2018.

Fractal dimensions of covering set and first return rate in dynamical systems, FDCT, PI(MA CHAO), 2018-2021.

The Multifractal Spectrum for Cantor Series Expansions FDCT, PI(MA CHAO), 2021-2024.

Professional Certification and Awards

Student Awards

Professional Society Membership