Research*

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As Steven G. Krantz points out in his book [2, Preface],

> Functional analysis is a child of the twentieth century[1]. Rapid developments in the theory of differential equations and especially in harmonic analysis (the theory of Fourier series) made it desirable to study entire spaces of functions. These were usually infinite dimensional spaces, which revealed new worlds of harmony and truth. Functional analysis gave analysis a new set of techniques and an entirely new way of looking at things [...]. It often was able to prove in a few lines results that were hard work to verify by classical means.

When dealing with normed or Banach spaces, linear operators between them arise in a natural manner. Larger classes of mappings appear as well, leading to the study of multilinear mappings, polynomials, differentiable, and holomorphic mappings.

These areas have known a huge development in the last decades from different points of view. Richard M. Aron, Seán Dineen [1], and many other great mathematicians have made very important contributions.

One of our interests has been the interplay between properties of Banach spaces and the behavior of these classes of nonlinear mappings acting between them. The search for factorizations of nonlinear mappings through linear ones has also been one of our concerns. We have found interesting and useful results which have attracted attention of mathematicians from many countries.

References

[1] D. Dineen, *Complex Analysis on Infinite Dimensional Spaces,* Springer, Berlin 1999.

[2] S. G. Krantz, *A Guide to Functional Analysis,* The Mathematical Association of America, Washington 2013.

[3] A. Pietsch, *History of Banach Spaces and Linear Operators,* Birkhäuser, Boston 2007.

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[1]The same sentence may be seen in [3, Introduction]