

Polynomials whose roots and critical points are integers

The problem of finding properties, characterizations, and methods of construction of polynomials whose coefficients, roots, and critical points are integers is on the list of unsolved problems published in the issue of December 1999 of *The American Mathematical Monthly*. Such polynomials are called nice polynomials. To our knowledge, the earliest paper on this subject was published in 1960. The most important paper was published by Ralph Buchholz and James MacDougall in the *Journal of Number Theory* in January 2000. Their paper contains a comprehensive bibliography on the subject. I am preparing a paper on this subject. The first version of my paper is posted on the internet at the address:

<http://front.math.ucdavis.edu/math.NT/0407256>

I am currently working on the revision of this first version. After the first version of my paper was finished, an important work on nice polynomials was achieved by Jonathan Groves in his Master's thesis at Western Kentucky University during the academic year 2003–2004. He is preparing several papers on the results of his thesis, and one of them is already submitted. He finished his Master's thesis last July, and has started the Ph. D. program of the University of Kentucky. He will also give a talk on his work at this Symposium. We have obtained a lot of new results, and opened roads in several directions. Our work has raised many exciting problems at all levels. Many of these problems are likely to be solved in a short time, while many other problems will require the creation of new methods that may interest mathematicians with very different background.