

**John McCarthy**, St. Louis (USA)

*Function theory on bounded varieties*

By a bounded variety we mean the intersection of some one dimensional variety with a bounded domain in  $C^n$ . Consider for example the intersection  $V$  of  $\{z^2 = w^2\}$  with the bidisk. This is just two disks with a common center. It is easy to see that the obstruction to a finite set in  $V$  being the zero set of a rational inner function is given by one real number, as is the obstruction to a real-valued function on  $\partial V$  being the real part of a holomorphic function on  $V$ .

When one looks at more complicated varieties, such problems become harder to resolve. Operator theory is very useful in shedding light on the function theoretic questions that arise. I shall discuss several examples.