

## April's Problem

Find a differentiable function  $f : \mathbb{R} \rightarrow \mathbb{R}$  such that

$$f(x) = \frac{1}{2} - \int_0^x (\cos t) f(t)^2 dt.$$

Please submit solutions by the end of April. There is a folder for submissions in the door slot of Burton 316. Don't forget to write your name and the date and time on your solution. You can also email your solutions to: [mbush@smith.edu](mailto:mbush@smith.edu).