

---

**DAMIR KINZEBULATOV**, University of Calgary, 2500 University Drive NW, Calgary, Alberta T2N 1N4  
*On Nicholson's blowflies equation with a distributed delay*

The dynamics of the well-known Nicholson's blowflies model,

$$N'(t) = pN(t - \tau)e^{aN(t-\tau)} - \delta N(t), \quad (1)$$

where  $N(t)$  is the size of the population at time  $t$ , coefficients  $p, \delta \geq 0$  are the maximal daily egg production and adult death rates, respectively,  $1/a$  is the population size providing maximal reproduction rate and  $\tau \geq 0$  is the generation time, was intensively studied in the literature in the last decades.

It is believed that models with a distributed delay (generally, time dependent) provide a more adequate description of population dynamics than equations with a constant concentrated delay. In this talk, we consider the Nicholson's blowflies model with a time-dependent distributed delay. Global and local behaviour of solutions is investigated: positiveness and persistence, global attractivity and oscillation.