Made for this film: a fictional practice proposal, never submitted.

Budget Justification

The project requests $573,681 over five years ($416,797 in direct costs and $156,884 in indirect costs). For salary purposes, Prairie Ridge State University defines a year as each 12-month budget period of the award. Salaries and stipends increase by 3% a year.

A. Senior/key personnel. Dr. Wren Castellano, Principal Investigator, requests 1.0 month of summer salary in each year, at her monthly rate of $10,200 in Year 1 (academic-year salary of $91,800 over nine months): $10,200, $10,506, $10,821, $11,146 and $11,480, for a total of $54,153. Dr. Castellano directs the project, leads the research objectives, teaches the course module and leads the teacher institute. No other senior/key personnel are requested.

B. Other personnel. *Graduate students (B.3).* Two graduate research assistants (Ph.D. students) are requested for 12 months in each year, each at $26,400 per year in Year 1 ($2,200 per month), increasing 3% per year. They lead the field experiment of objective R1 and the gene assays of R2, help run the summer teacher institute, and serve as teaching assistants for the course module in Years 2 and 4. *Undergraduate students (B.4).* Two undergraduate researchers per year, 280 hours each at $12.50 per hour ($7,000 per year; $35,000 in total), work on the field measurements and the laboratory analyses under the mentoring plan.

C. Fringe benefits. Fringe benefits follow the university's approved rates: 26.5% for faculty summer salary, 4.0% for graduate research assistants and 1.5% for undergraduate wages. In Year 1 these are $2,703, $1,056 and $105, for a total of $3,864; the five-year total is $20,483.

D. Equipment. No equipment is requested.

E. Travel. $8,000 per year is requested for domestic travel: (1) travel by the PI and the graduate student to one national meeting each year to present results, two travelers at about $1,900 each for registration, airfare, lodging and meals ($3,800); and (2) field travel by university vehicle between campus, the research farm and Teal Slough Farms, about 6,000 miles a year at the university's rate of $0.70 per mile ($4,200). No international travel is requested.

F. Participant support costs. The summer teacher institute in Years 2 to 5 supports eight teachers each year: stipends of $600 per teacher (F.1, $4,800 a year); lunches for five days at $25 per teacher per day (F.3, $1,000 a year); and a classroom kit of two simplified nodes for each teacher at $150 (F.4, $1,200 a year). Teachers travel to campus in their own vehicles; no participant travel is requested. Participant support totals $7,000 a year in Years 2 to 5 and $28,000 in all.

G. Other direct costs. *Materials and supplies (G.1).* Year 1, $9,500: sixteen chamber nodes at about $180 in parts ($2,880); 40 redox electrodes with reference electrodes ($2,400); field water tubes and pressure transducers ($1,600); gas standards, vials, septa and syringes ($1,800); and parts for developing the course kits ($820). Years 2 to 5, $5,500 a year: replacement sensors ($1,500), gas standards and vials ($1,800), laboratory reagents not covered by core fees ($1,400) and field supplies ($800). *Publication costs (G.2).* $2,500 in each of Years 3, 4 and 5 for open-access publication fees. *Other (G.6).* Tuition remission for the graduate research assistant, $11,000 per year, as required by university policy for research assistants; and analytical services at the campus core facility, $4,000 per year, for gas chromatography runs and qPCR and sequencing assays at the core's internal rates. G.6 totals $15,000 a year.

H. Total direct costs. $76,964, $81,175, $84,922, $86,207 and $87,529 in Years 1 to 5; $416,797 in total.

Made for this film: a fictional practice proposal, never submitted.

I. Indirect costs. Indirect costs are charged at the university's negotiated rate of 47% of modified total direct costs, which exclude tuition remission and participant support costs: $156,884 over five years.

Total request. $573,681 over five years. Voluntary committed cost sharing is not included.