

# Texas State's Budget justification

## Salaries at Texas State

Salary requested will support twenty five percent (25%) effort by the PI during the regular semesters and one hundred percent (100%) effort by the PI in the summer.

In addition, one graduate student will be selected to participate at fifty percent (50%) effort in the project.

### ***Theoretical efforts supported***

- \_ Develop the mathematics of process characteristic formulae for knots
- \_ Assist with the translation of spatial logic to Xquery, proof of correctness
- \_ Translate of other knot invariants of an algebraic typ (e.g knot polynomial invariants)
- \_ Generalize knot encoding to links and braids, seeking further mathematical insights from this encoding.

### ***Development and deployment efforts supported***

- \_ project management;
- \_ setting up and maintaining the hardware Texas State University;
- \_ setting up and maintaining the software development environment;
- \_ setting up and maintaining the search service based at Texas State University

# Travel

PI

- \_ Three visits to Biosimilarity LLC in Seattle for close collaboration
  - \_ August, December and May
- \_ international conferences (ICM, *CONCUR*, and or *ETAPS*) with co-PI
- \_ Domestic conferences at the national level
  - \_ graduate student (in years 2 and 3)
  - \_ PI will attend one Computer Science conference with co-PI
  - \_ PI receives institutional support for domestic travel to present work.

<i>Item</i>	<i>Quantity</i>	<i>Item cost</i>	<i>Cost / an- num</i>
<b><i>Visits to Seattle travel</i></b>	3	500.00 USD	1500.00 USD
<b><i>room and board (1 week)</i></b>		500.00 USD	1500.00 USD
<b><i>International conferences travel</i></b>	1-3	750.00 USD	1500.00 USD
<b><i>lodging</i></b>		500.00 USD	500.00 USD
<b><i>conference fees</i></b>		1000.00 USD	1000.00 USD
<b><i>Domestic conferences (supported by Texas State)</i></b>	2		
<b><i>Total ask of NSF</i></b>			6,500.00 USD

## Miscellaneous

Support for lengthy long distance calls between San Marcos and Seattle is requested by the PI.

<i>Item</i>	<i>Quantity</i>	<i>Item cost</i>	<i>Cost / annum</i>
<i>Long distance phone</i>	1	400.00 USD	400.00 USD
<i>Total</i>			400.00 USD

## Equipment for Knot Server at Texas State University

The PI requests a MacBook Pro to facilitate the development of the software needed, as well as to prepare presentations and papers when traveling.

A Mac Pro with four processors and four large storage disks has been requested to provide a dedicated machine for the Knot Server as it is deployed. This machine will be able to function as a knot repository supporting queries such as those described in the narrative.

<i>Item</i>	<i>Quantity</i>	<i>Item cost</i>	<i>Cost / annum</i>
<i>MacBook Pro</i>	1	3250.00 USD	3250.00 USD
<i>Mac Pro</i>	1	6250.00 USD	6250.00 USD
<i>Total</i>			9,500.00 USD