CLAIM(S):

1. A tubing retainer for use with a sensor, comprising

(a) a hollow polymeric shaft having a first end, a second end, a side wall having a cylindrical inner surface and an outer surface, and a vertical axis;

(i) the first end having cut outs through opposing portions of the side wall, the cut outs forming first and second slots in the opposing portions of the side wall, the first and second slots collectively arranged to receive cylindrical tubing therein, the first and second slots each having a narrower portion at the first end for initially receiving the cylindrical tubing, and a wider portion below the narrower portion, the wider portion providing a closed end of the slot, wherein the wider portion has an inner diameter arranged to retain the cylindrical tubing without significantly compressing the cylindrical tubing;

(ii) the second end having threads on the inner surface, and a flat base perpendicular to the vertical axis.

2. The tubing retainer of claim 1, wherein the threads on the inner surface of the second end are configured to engage with threads on an outer surface of a sensor;

wherein when cylindrical tubing is retained in the first end of the tubing retainer and the sensor is threadably engaged in the second end of the tubing retainer, the cylindrical tubing is aligned with an upper end of a sensor.

3. The tubing retainer of claim 1 or 2, wherein the inner diameter of the wider portion is equal to an outer diameter of the cylindrical tubing.

4. The tubing retainer of claim 1 or 2, wherein the inner diameter of the wider portion is ~~about~~ 5% smaller than an outer diameter of the cylindrical tubing.

5. The tubing retainer of any one of claims 1-4, wherein when the cylindrical tubing is retained in the first end of the tubing retainer and the sensor is threadably engaged in the second end of the tubing retainer, a distance from the closed ends of the first and second slots to an upper end of the sensor is ~~about~~ 2 cm or less.

6. The tubing retainer of claim 5, wherein when the cylindrical tubing is retained in the first end of the tubing retainer and the sensor is threadably engaged in the second end of the tubing retainer, the top end of the sensor contacts an outer surface of the cylindrical tubing.

7. A sensing system comprising the tubing retainer of any one of claims 1-6;

cylindrical tubing retained in the first end of the tubing retainer; and,

a sensor having an upper end and a lower end, the sensor having an outer surface including threads engageable with the threads on the inner surface of the second end of the tubing retainer.

8. The sensing system of claim 7, wherein the sensor comprises an ultrasonic sensor.

9. The sensing system of claim 7, wherein the sensor comprises a capacitive sensor.

10. A method of retaining cylindrical tubing, the method comprising placing cylindrical tubing in a tubing retainer for use with a sensor, the tubing retainer comprising

a hollow polymeric shaft having a first end, a second end, a side wall having a cylindrical inner surface and an outer surface, and a vertical axis;

(i) the first end having cut outs through opposing portions of the side wall, the cut outs forming first and second slots in the opposing portions of the side wall, the first and second slots collectively arranged to receive cylindrical tubing therein, the first and second slots each having a narrower portion at the first end for initially receiving the cylindrical tubing, and a wider portion below the narrower portion, the wider portion providing a closed end of the slot, wherein the wider portion has an inner diameter arranged to retain the cylindrical tubing without significantly compressing the cylindrical tubing;

(ii) the second end having threads on the inner surface, and a flat base perpendicular to the vertical axis; and,

placing cylindrical tubing in the slots in the first end of the tubing retainer, and sliding the cylindrical tubing through the narrower portions into the wider portions.

11. The method of claim 10, also including threadably engaging a sensor in the second end of the aspect of the tubing retainer.