WHAT IS CLAIMED IS:

1. A method of immobilizing and applying an operation to insects, comprising:

obtaining insects;

directing said insects to a first side of a permeable surface;

applying a pressure gradient across said permeable surface, to provide a pressure which is lower at a second side of said surface than at said first side, said pressure gradient thereby being effected as a pull of said insects to said permeable surface to immobilize said insects on said permeable surface;

conveying said insects on said permeable surface under continuing application of said pressure gradient;

and

carrying out said operation on said immobilized insects.

2. The method of claim 1, wherein said applying a pressure gradient comprises applying suction across said permeable surface from said second side.

~~3. The method of claim 1, wherein said applying a pressure gradient comprises adjusting between a first pressure gradient and a second pressure gradient, said second pressure gradient being steeper than said first pressure gradient, said first pressure gradient allowing insects to walk and separate from each other but not fly, and said second pressure gradient preventing said insects from walking.~~

~~4~~3. The method of claim 1, wherein said permeable surface is at least part of a moving conveyor having a conveying length along which said insects are conveyed, the pressure gradient being applied along said conveying length.

~~5~~4. The method of claim ~~4~~3, comprising applying pressure gradients at respective locations along said conveying length, said pressure gradients at said respective locations differing from one another.

~~6~~5. The method of any one of the preceding claims, further comprises applying third pressure gradient, said third pressure gradient being higher than said first pressure gradient and lower than said second pressure gradient.

~~7~~6. The method of any one of the preceding claims, wherein said pressure gradient is reversible in direction.

~~8~~7. The method of any one of the preceding claims, wherein said operation comprises counting insects on said permeable surface and/or applying a larvicide.

~~9~~8. The method of any one of the preceding claims, wherein said operation comprises obtaining one member of the group consisting of an image or a position of an individual insect.

~~10~~9. The method of any one of the preceding claims, wherein said operation comprises applying a predetermined radiation dosage to an individual insect.

~~11~~10. The method of claim ~~10~~9, comprising focusing a beam from a radiation source onto said individual insect according to an obtained position.

~~12~~11. The method of any one of the preceding claims, wherein said operation comprises determining a sex of an individual insect.

~~13~~12. The method of claim ~~12~~11, wherein said operation comprises removing an individual insect if determined to be of a first sex and/or irradiating said individual insect if determined to be of a second sex.

~~14~~13. The method of any one of claims 1 to ~~9~~8, wherein said operation comprises applying an unfocused radiation dose evenly over said permeable surface to reach each of said separated insects.

~~15~~14. The method of any one of the preceding claims, wherein said obtaining said insects comprises causing said insects to fly through a duct with an airflow to a collection area.

~~16~~15. The method of any one of claims 1 to ~~14~~13, wherein said obtaining said insects comprises collecting said mass of insects when immobilized by cooling or using an anaesthetizing agent.

~~17~~16. The method of claim ~~16~~ 15 comprising warming said insects to remobilize said insects and allow separation, prior to said applying said pressure gradient.

~~18~~17. The method of any one of the preceding claims, comprising applying said operation at an operation station, said insects being conveyed up to said operation station and then kept stationary for said operation.

~~19~~18. The method of any one of claims 1 to ~~17~~16, comprising applying said operation at an operation station while said insects are conveyed past said operation station.

~~20~~19. The method of any one of the preceding claims, wherein said operation comprises sterilization, the method comprising sweeping a sterilization beam across said insects.

~~21~~20. The method of any one of the preceding claims, wherein the operation comprises classification, the method comprising using an algorithm to classify an insect according to sex, applying a score to said classification and if said score is below a predetermined threshold then referring said insect to a human operator.

~~22~~21. The method of any one of the preceding claims, wherein the operation comprises classification, the method comprising using an algorithm to classify an insect according to sex, and using a graphical user interface to display respective classifications to a human operator for verification.

~~23~~22. The method of claim ~~22~~21, wherein said operation comprises removing an individual insect if determined to be of a first sex and/or irradiating said individual insect if determined to be of a second sex and a decision regarding said removing or irradiating is obtained via said graphical user interface.

~~24~~23. The method of any one of the preceding claims, wherein the operation comprises sterilization, said sterilization comprising moving at least one radiation source in two dimensions in a plane above said permeable surface.

~~25~~24. The method of any one of the preceding claims, wherein the operation comprises sterilization, said sterilization comprising moving at least two radiation sources to provide a focused beam or a homogenous beam ~~-~~at said permeable surface.

~~26~~25. The method of any one of the preceding claims, wherein the operation comprises sterilization and said predetermined dose is provided in a plurality of fractional doses with intervals therebetween.

~~27~~26. A method of applying an operation to an immobile insect comprising:

directing a mass of insects to a collecting surface;

applying a first pressure gradient across said collecting surface to allow individual insects to separate from said mass but not to fly away;

applying a second pressure gradient, said second pressure gradient being higher than said first pressure gradient, to said insects to immobilize said insects;

conveying said insects on said permeable surface; and

carrying out said operation on said separated and immobilized insects.

~~28~~27. The method of claim ~~27~~ 26 wherein said mass of insects are cold when directed to said collecting surface.

~~29~~28. The method of claim ~~27~~ 26 or claim ~~28~~27, wherein said operation comprises obtaining coordinates of individual insects.

~~30~~29. Apparatus for carrying out an operation on insects, comprising:

a permeable surface for receiving said insects;

a pressure source for applying a pressure gradient across said permeable surface;

a pressure source controller for controlling said pressure gradient between a first level at which said insects on said permeable surface are able to walk but unable to fly and a second level being higher than said first level, in which said insects are immobilized; and

an operating station for carrying out an operation on said insects while immobilized.

~~31~~30. Apparatus according to claim ~~30~~29, further comprising a camera for obtaining images and/or coordinates of said insects.

~~32~~31. Apparatus according to claim ~~30~~ 29 or claim ~~31~~30, comprising a robot actuated device for removing identified ones of said insects based on provided coordinates.

~~33~~32. Apparatus according to any one of claims ~~30~~ 29 to ~~32~~31, comprising at least one radiation source configured to provide a predetermined radiation dose to a specified location.

~~34~~33. Apparatus according to any one of claims ~~30~~ 29 to ~~33~~32, further comprising a graphical user interface, the graphical user interface providing interactions to allow an operator to control said operations.

~~35~~34. Apparatus according to claim ~~34~~33, wherein said graphical user interface comprises:

a first view showing an area of said permeable surface with insects labeled according to a classification or as unclassified and allowing for selection between said insects; and

a second view showing an enlargement of a selected insect in said first view.

~~36~~35. Apparatus according to claim ~~35~~34, wherein said graphical user interface further comprises at least one classification or counting interaction to input a classification of a currently selected insect.

~~37~~36. Apparatus according to claim ~~35~~ 34 or claim ~~36~~35, wherein said graphical user interface comprises at least one operation interaction to apply an operation to a currently selected insect.

~~38~~37. Apparatus for carrying out an operation on insects, comprising:

a permeable surface conveyable along a length of travel for receiving said insects;

at least two pressure sources for applying a pressure gradient across said permeable surface at respective locations along said length of travel;

a pressure source controller configured to control said pressure gradient independently at each pressure source between a first level at which said insects on said permeable surface are able to walk but unable to fly and a second level, higher than said first level, in which said insects are immobilized; and

an operating station for carrying out an operation on said insects while immobilized.

~~39~~38. Apparatus for carrying out an operation on insects, comprising:

a permeable surface conveyable along a length of travel, for receiving said insects;

a pressure source for applying a pressure gradient across said permeable surface;

ducts for conducting air pressure to different locations along said length of travel;

a pressure source controller for controlling said pressure gradient between a first level at which said insects on said permeable surface are able to walk but unable to fly and a second level higher than said first level in which said insects are immobilized; and

an operating station for carrying out an operation on said insects while immobilized.

~~40~~39. A method of immobilizing and applying an operation to insects, comprising:

obtaining insects via a duct;

directing said insects to a first side of a permeable surface using a first pressure source;

applying a pressure gradient through said permeable surface using a second pressure source, such that pressure of the pressure gradient is lower at a second side of said surface than at said first side, thereby to immobilize said insects on said permeable surface;

conveying said insects on said permeable surface;

and

carrying out said operation on said immobilized insects.

~~41~~40. Apparatus for immobilizing and applying an operation to insects, comprising:

a permeable surface, the permeable surface being located on a conveyor;

a pressure source configured to apply a pressure gradient through said permeable surface to be lower at a second side of said permeable surface than at said first side, thereby to immobilize said insects on said permeable surface, wherein the immobilized insects are conveyed on said permeable surface to a location for carrying out of said operation.

~~42~~41. Apparatus for applying an operation to an immobile insect comprising:

a permeable collecting surface for collecting insects thereon;

a first pressure source configured to apply a first pressure gradient across said permeable collecting surface to immobilize said insects, the pressure gradient being applied such that the collected insects are pressured into the surface;

the permeable collecting surface being part of a conveyor for conveying said insects on said permeable surface to a location for carrying out said operation on said insects.

~~43~~42. The apparatus of claim ~~42~~41, wherein said first pressure source is further configured to apply a second pressure gradient, said second pressure gradient being lower than said first pressure gradient, to prevent said insects from flying away but allowing them to walk.

~~44~~43. Apparatus for immobilizing and applying an operation to insects, comprising:

a duct for supplying of said insects;

a permeable surface at an end of said duct,;

a first pressure source associated with said duct to guide insects through said duct to a first side of said permeable surface, said first side facing said duct;

a second pressure source configured to apply a pressure gradient through said permeable surface such that pressure of the pressure gradient is lower at a second side of said surface than at said first side, thereby to immobilize said insects on said permeable surface, wherein said operation is carried out on said immobilized insects on said permeable surface.