CLAIMS

1. A system for the growth of biologics comprising:

   a perfusion seed train or a fed-batch bioreactor seed train;

   a bioreactor subsystem comprising at least two bioreactors fed from the perfusion seed train or the fed-batch bioreactor seed train;

   at least two harvest subsystems, wherein each harvest subsystem is configured to be in fluid communication with each of the bioreactors in the bioreactor subsystem, individually or in combination; and

   at least one purification subsystem, wherein the at least one purification subsystem is configured to be in fluid communication with each of the at least two harvest subsystems individually or in combination, wherein the at least one purification subsystem is downstream from the at least two harvest subsystems.

2. A system as defined in claim 1, further comprising a flow control assembly positioned in between the at least two bioreactors and the at least two harvest subsystems, the flow control assembly being configured to selectively control flow of a fluid from a first bioreactor to a first harvest subsystem and from the first bioreactor to a second harvest subsystem, the flow control assembly also being configured to control flow of a fluid from a second bioreactor to the first harvest subsystem and from the second bioreactor to the second harvest subsystem.

3. A system as defined in claim 1, wherein the system comprises at least two purification subsystems, wherein at least one purification subsystem is configured to produce a different biologic than at least one other purification subsystem.

4. A system as defined in claim 1, configured to process more than 100 batches per year.

5. A system as defined in claim 1, wherein at least one of the bioreactors is 6000 L or larger.

6. A system as defined in claim 1, wherein the bioreactor subsystem comprises at least one fed-batch bioreactor.

7. The system as defined in claim 1, wherein the at least two harvest subsystems feed at least two purification subsystems, wherein the at least two purification subsystems are operated in parallel.

8. The system as defined in claim 1, wherein the at least two bioreactors feed the at least two harvest subsystems, wherein the at least two harvest subsystems are operated in parallel.

9. The system as defined in claim 1, wherein the at least one purification subsystem comprises at least one chromatography column station.

10. The system as defined in claim 9, wherein the at least one purification subsystem comprises three chromatography column stations.

11. The system as defined in claim 1, wherein the at least one purification subsystem comprises a pre-viral train.

12. The system as defined in claim 11, wherein the pre-viral train comprises at least one chromatography column station.

13. The system as defined in claim 1, wherein the at least one purification subsystem comprises a post-viral train.

14. The system as defined in claim 13, wherein the post-viral train comprises at least one chromatography column station.

15. The system as defined in claim 1, wherein the at least one purification subsystem comprises a pre-viral train and a post-viral train.

16. The system as defined in claim 15, wherein the pre-viral train and the post-viral train are configured such that one of the pre-viral train and the post-viral train comprises at least one chromatography column station, wherein the at least one chromatography column station comprises at least one chromatography column, wherein the at least one chromatography column is configured such that it can be transferred from the pre-viral train to the post-viral train or from the post-viral train to the pre-viral train.

17. A system for the growth of biologics comprising:

    a perfusion seed train or a fed-batch bioreactor seed train;

    a bioreactor subsystem comprising at least two bioreactors fed from the perfusion seed train or the fed-batch bioreactor seed train;

    at least two harvest subsystems, wherein each harvest subsystem is configured to be in fluid communication with each of the bioreactors in the bioreactor subsystem individually or in combination, wherein each harvest subsystem is

    downstream from the at least two bioreactors, wherein each harvest subsystem receives the effluent of the at least two bioreactors;

    at least one purification subsystem, wherein the at least one purification subsystem is configured to be in fluid communication with each of the at least two

    harvest subsystems individually or in combination, wherein the at least one purification subsystem is downstream from the at least two harvest subsystems, wherein the at least one purification subsystem is downstream from the at least two harvest subsystems, wherein the at least one purification subsystem comprises at least one chromatography column station;

    a flow control assembly positioned in between the at least two bioreactors and the at least two harvest subsystems, the flow control assembly being configured to selectively control flow of a fluid from a first bioreactor to a first harvest subsystem and from the first bioreactor to a second harvest subsystem, the flow control assembly also being configured to control flow of a fluid from a second bioreactor to the first harvest subsystem and from the second bioreactor to the second harvest subsystem; and

    wherein the bioreactor subsystem, the at least two harvest subsystems, and the at least one purification subsystem are selectively operable such that one or more subsystems are operable while one or more subsystems are not operating.

18. The system as defined in claim 17, wherein the at least one purification subsystem comprises three chromatography column stations.

19. The system as defined in claim 17, wherein the at least one purification subsystem comprises a pre-viral train.

20. The system as defined in claim 19, wherein the pre-viral train comprises the at least one chromatography column station.

21. The system as defined in claim 17, wherein the at least one purification subsystem comprises a post-viral train.

22. The system as defined in claim 21, wherein the post-viral train comprises the at least one chromatography column station.

23. The system as defined in claim 17, wherein the at least one purification subsystem comprises a pre-viral train and a post-viral train.

24. The system as defined in claim 23, wherein the pre-viral train and the post-viral train are configured such that one of the pre-viral train and the post-viral train comprises the at least one chromatography column station; wherein the at least one chromatography column station comprises at least one chromatography column, wherein the at least one chromatography column is configured such that it can be transferred from the pre-viral train to the post-viral train or from the post-viral train to the pre-viral train.