Programmatic Research Beginning a Discussion

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Programmatic Research

- What is it?
- Why is it needed?
- Examples
- Discussion focused on developing an initiative to promote and support programmatic research

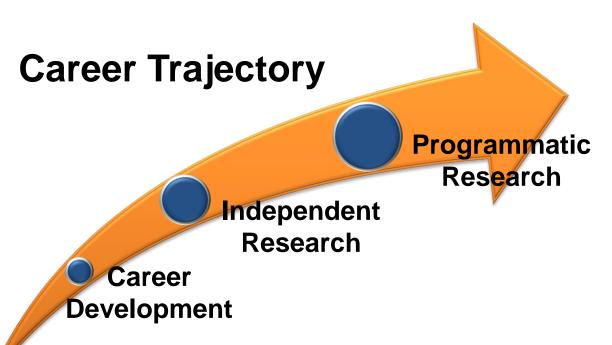
Programmatic Research [whole is greater than the sum of the parts]

- Research that addresses a basic or clinical unmet need
- Overarching hypothesis that makes a difference
- Interdisciplinary and interactive research that includes projects and cores
- Other stuff: career development, training, outreach, etc.

Programmatic Research [whole is greater than the sum of the parts]

- Top-down: identify broad-based research themes that impact human health and disease
- Bottom-up: collaborative, programmatic interdisciplinary research

Why is it needed?



- Hubs of interdisciplinary research and team science
- Career enriching opportunities for trainees and young faculty
- Ask and answer the big questions

Practical Reason to Support Programmatic Research

Medical Schools	P01s
1. UCSF	11
2. Stanford	8
3. Washington U	9
4. Johns Hopkins	8
5. Pennsylvania	14
6. Pittsburgh	6
7. Yale	6
8. Columbia	8
9. Duke	7
10. UCLA	7
11. Vanderbilt	5

Medical Schools	P01s
12. UCSD	5
13. Emory	5
14. Michigan	4
15. Mt Sinai	8
16. Northwestern	7
17. Washington	7
18. NYU	8
19. UNC	0
20. Baylor	7
21. Minnesota	6
22. Case Western	3

13→**19**

CU SOM: 23rd NIH Rank, 3 P01s

Benefits of Programmatic Research [whole is greater than the sum of the parts]

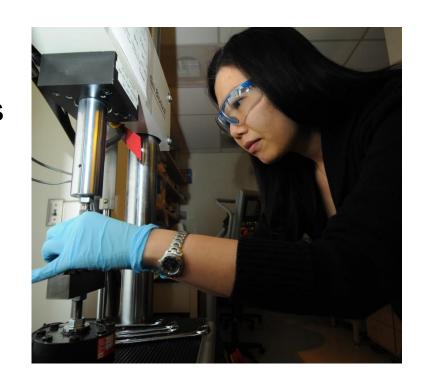
- Scientific Impact: more than you could do on your own
- Career development and training
- Community, comradery, and fun
- Recruitment of new trainees and faculty to strengthen the research mission

Institutional Support

- ASPIRE
- AB Nexus

ASPIRE – an incubator for programmatic research

- Goal: increase success of programmatic research on AMC
- Supports milestone-driven collaborations between investigators to solve unmet needs in basic science and clinical medicine
- Mentored program meet quarterly with leadership of ASPIRE Program to plan and develop PPG application
- Awards up to \$100,000/year for 2 years
- Supported by SOM, Chancellor's Office, and Cancer Center







Est 2020 (3 Year Pilot; ~75K-125K per award)

Mission

Expanding research collaborations between the University of Colorado Anschutz and Boulder campuses, to generate knowledge that improves human well-being and spurs innovation and economic development.

Goals

Elevate reputation through cross- campus research efforts

Remove existing barriers in administrative processes and promote connectivity

Catalyze researchers to accelerate and enhance interdisciplinary collaborations

Drive research and innovation to enhance opportunities and competitiveness of extramural funding



\$3.5M





48





\$21.8M



Economic Development



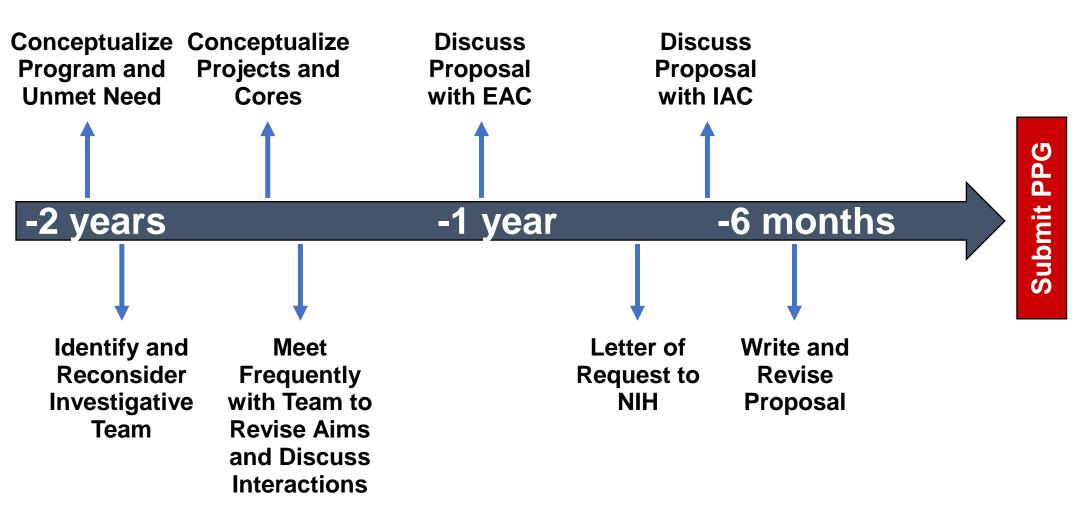
50+

in AB Nexus seed funding distributed

research teams awarded grants

external funding awarded to AB Nexus teams

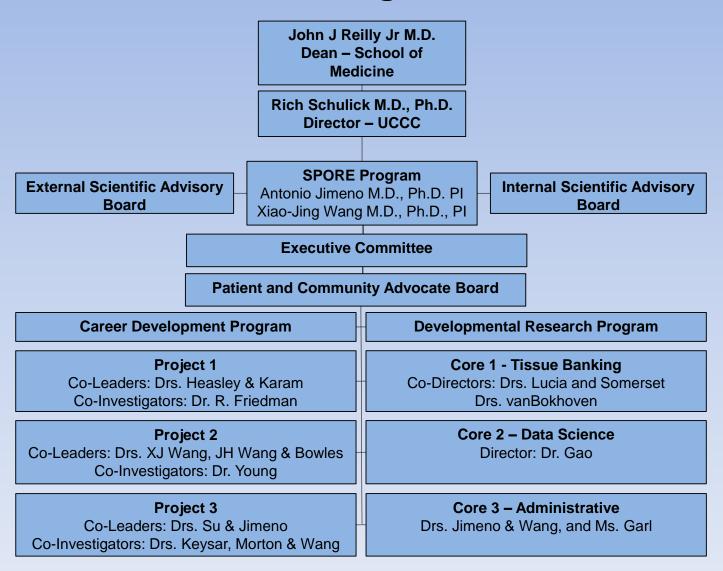
peer-reviewed research publications



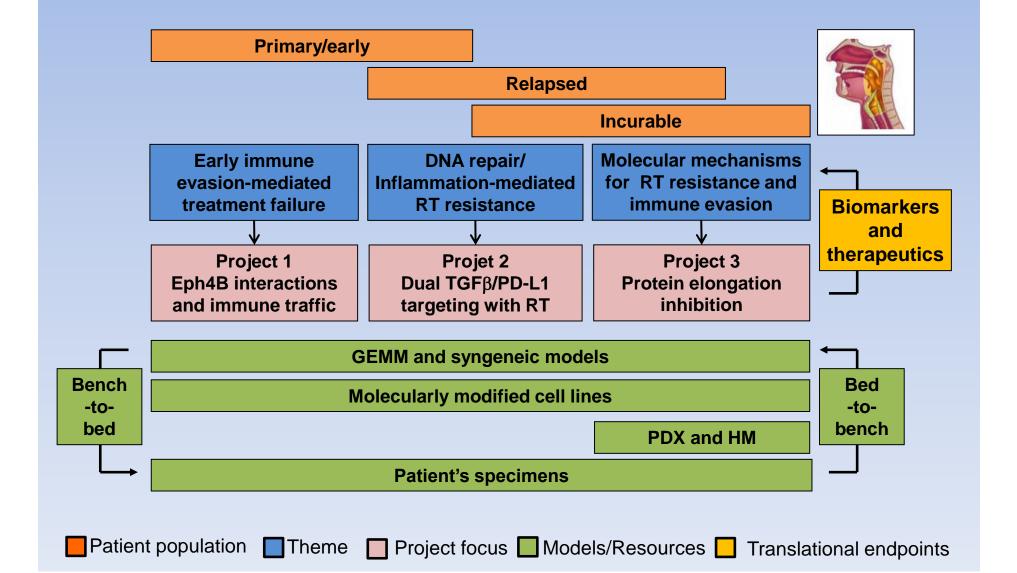
Programs need strong leadership

- Someone who can herd cats (people skills)
- Who has the bandwidth and energy
- Is willing to make tough choices (i.e. dropping a project)
- Who has vision, smarts and innovativeness
- Who has the track record and reputation

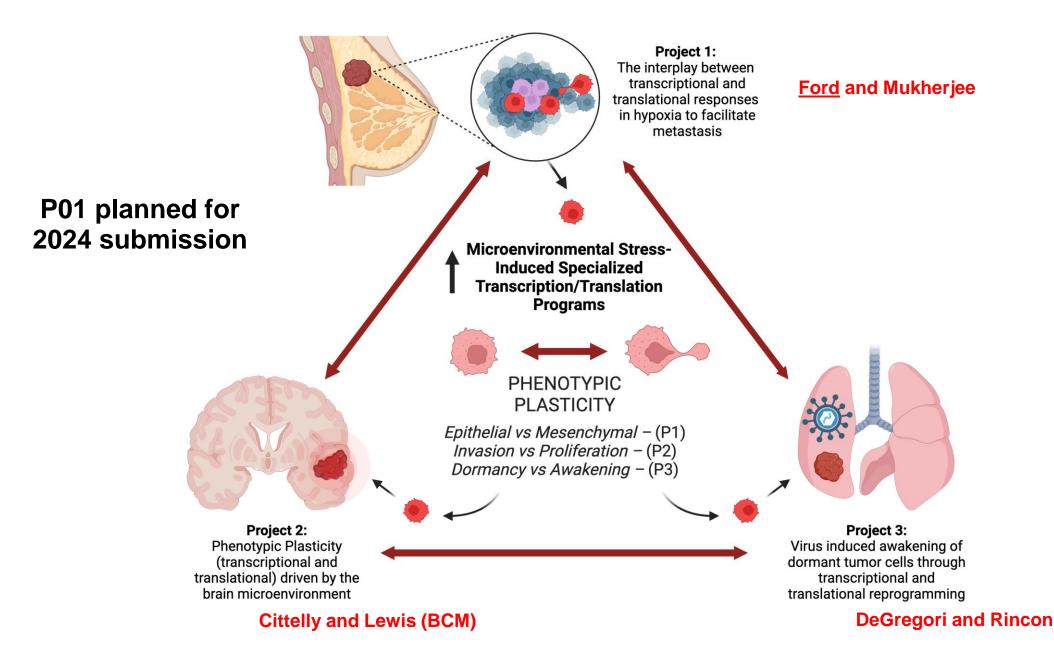
CO HNC SPORE Organization Chart



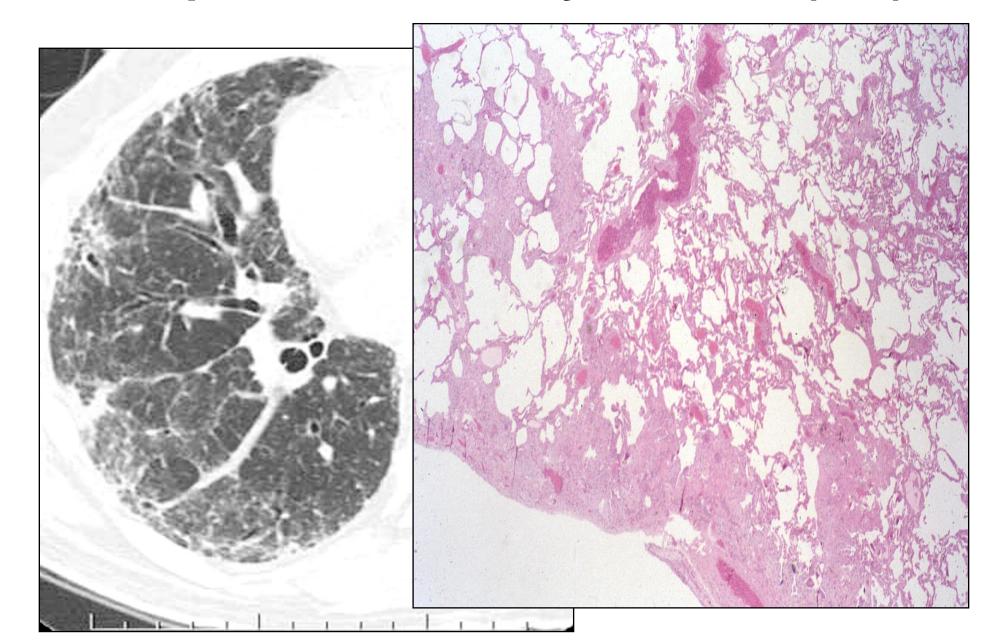
Thematic strategy of CO HNC SPORE



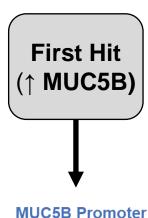
Uncovering Mechanisms of Tumor Cell Plasticity and Metastasis



Idiopathic Pulmonary Fibrosis (IPF)



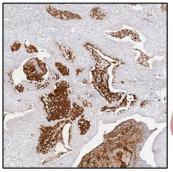
Overall Theme of Program



Second Hit (Re-Programed **Epithelia**)

- Tobacco smoke
- Aging
- Exposures
- Inflammation

Detrimental ER stress, UPR, Apoptosis



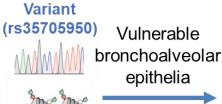


- Fibroblast activation

Aberrant epithelia

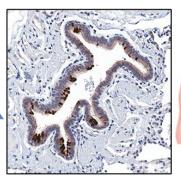
- Bronchiolization of distal airspace
- Honeycomb cyst formation
- Progressive, irreversible fibrosis







Homeostatic ER stress without **Apoptosis**

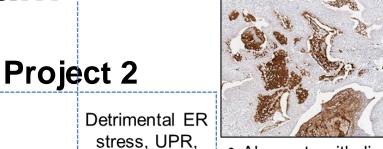




- Vulnerable bronchoalveolar epithelia
- Physiologically normal epithelia
- No fibroblast activation
- Normal lung parenchyma

Thematic Integration of **Projects in Program**

Project 3





Project 1

MUC5B Promoter Variant (rs35705950) Vulnerable bronchoalveolar epithelia

Apoptosis

- Aberrant epithelia
- Fibroblast activation
- Bronchiolization of distal airspace
- Honeycomb cyst formation
- Progressive, irreversible fibrosis

Homeostatic ER stress without **Apoptosis**





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Topics for Discussion

- Infrastructure needs
 - Scientists
 - Administrative Support
 - Financial Support
- Education
 - Mentorship
 - Seminar Series including NIH
 - Successful Examples
- Culture
 - Align incentives