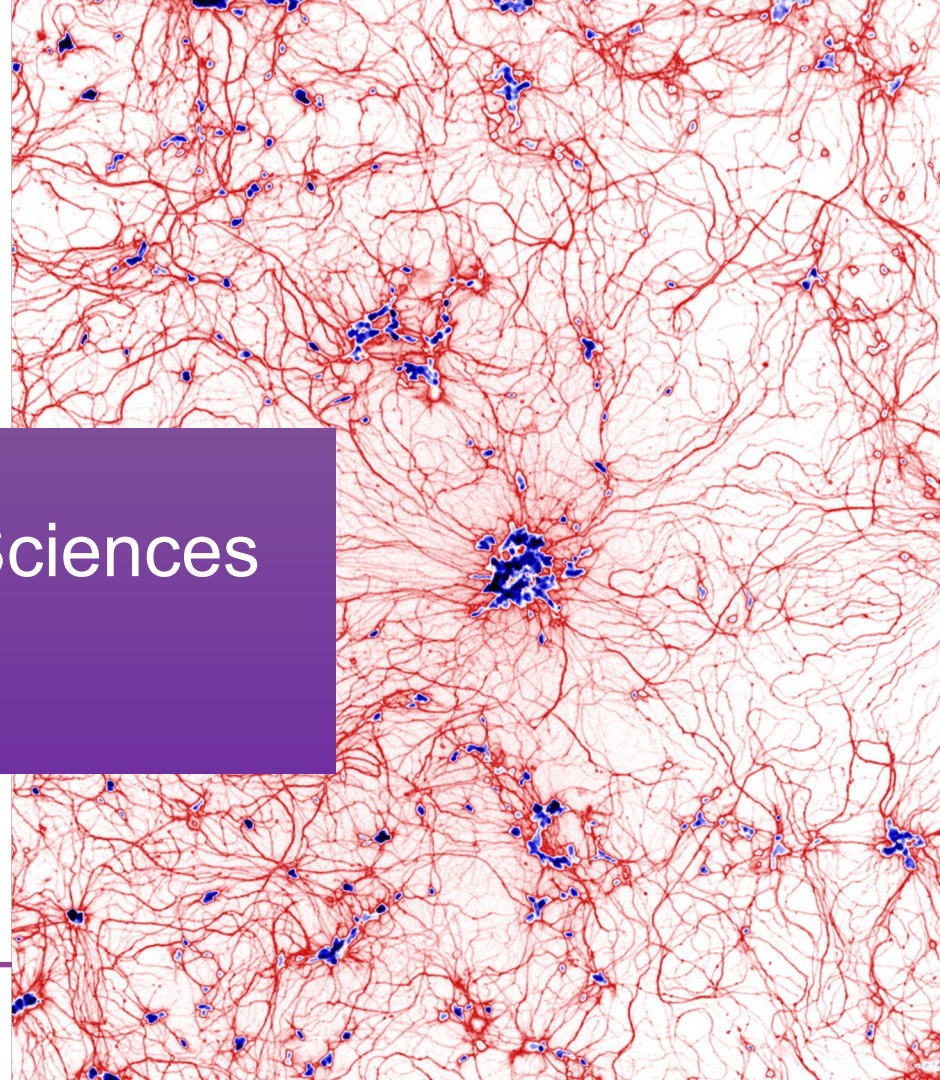




National Academies of Sciences

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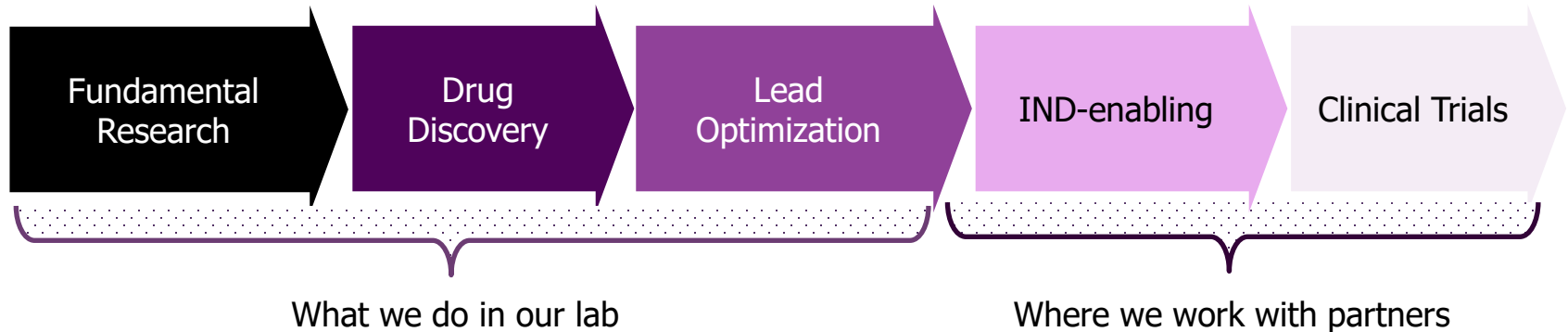
Fernando G. Vieira





ALS Therapy Development Institute

Non-profit research institute dedicated to discovering targets, therapeutics, and biomarkers.





ALS Therapy Development Institute

Key Challenges

Discovering targets in sporadic ALS.

Relating findings from models of genetic ALS to sporadic ALS.

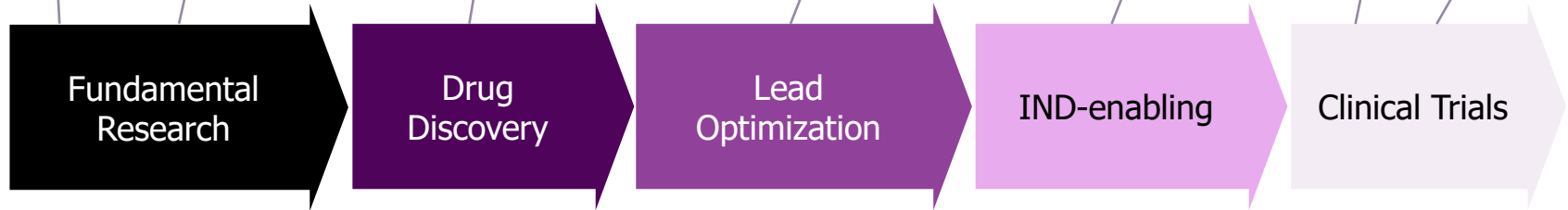
Targets are not always classically "druggable".

Newer modalities often require central nervous system delivery.

Success leads to cost inflection points.

Requires partnership / robust business development.

Patient subsetting / stratification





Approaches to Addressing Challenges

Challenge	ALS TDI Approach	Limitations
Sporadic ALS Target Discovery	• ARC Study – ALS Natural History Study / ‘-omics’ • Relating disease model ‘-omics’ to sporadic ALS ‘-omics’	• Lack of access to CSF/CNS Tissues • Resources to further scale
Target “Druggability”	• For classic small molecule drug discovery, emphasize enzymes. • For “non-druggable”, emphasize new modalities like nucleic acid/protein drugs.	• Lack of in-house medicinal chemistry. We outsource. • New modalities require new innovations: Formulations staff resources
CNS Drug Delivery	• Intracerebral ventricular/intrathecal • Encapsulation vehicles	• Skilled staffing limitations • Formulations staff resources
IND-Enabling Study Costs	• Venture Philanthropy	• High-risk “investment/donations” can be hard to recruit
Patient subset selection	• ARC Study – ‘-omics’ for biomarker/ related target discovery	• Number of samples • Data analysis bandwidth
Clinical Partnership	• Venture Philanthropy • Strategic partnerships with for-profit	• Partners can lose ALS focus • High-risk “investment/donations”