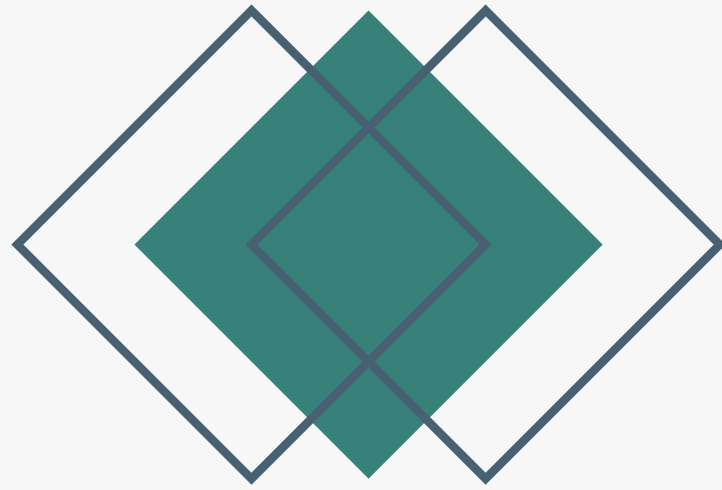




DYNOCHEM



Dr. Ramakanth Chitguppa



SCIENTIFIC TOOLS

Scientific tools are a key ingredient in forming the backbone of any pharmaceutical or chemical industry. They perform exceedingly complex calculations and simulations that usually take significant expertise and tremendous amounts of time in minutes and shape the course of actions to be taken, making them a reckoning force in the industry

01

Availability

02

Documentation

03

Reduction in Labor

04

Innovation

05

Accurate

05

Complexity

05

Regulatory
Acceptance

DYNOCHEM AS A TOOL

The net profit we got this month has had quite a positive impact on the company, here are the details:

- 01 Collect all relevant data for simulation
- 02 Run it through the DynoChem Software
- 03 Examine outcomes without actual trial and error
- 04 Document and use as basis for further operations



TESTIMONIALS



“Designing experiments in conjunction with [DynoChem] is important in order to elucidate the kinetics and thermodynamics of the reaction”

BMS, AIChE Conference

“The DynoChem modeling technique proved to be a very successful optimization tool”

Pfizer, OPR&D

USE OF DYNOCHEM

In Chemical Development operations:

01

Utilize a minimum set of experiments to characterize reactions

02

Easily fit chemical kinetic parameters to data profiles

03

Find optimum factor settings for yield, robustness, safety using model, saving experiments



USE OF DYNOCHEM

In Chemical Development operations:

04

Design experiments that make best use of automated lab reactors

05

Extract maximum information from ALR data

06

Extract additional value from PAT data, where available



USE OF DYNOCHEM

In Chemical Development operations:

- 07 Characterize reactions based on results of statistical DOE studies
- 08 Document reaction (kinetics) and vessel (heat transfer and mixing) characteristics in open, reusable Excel format
- 09 Automate generation of standard reports in Word and HTML format
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USE OF DYNOCHEM

For Kilo Lab, Pilot Plants and Manufacturing Operations:

01

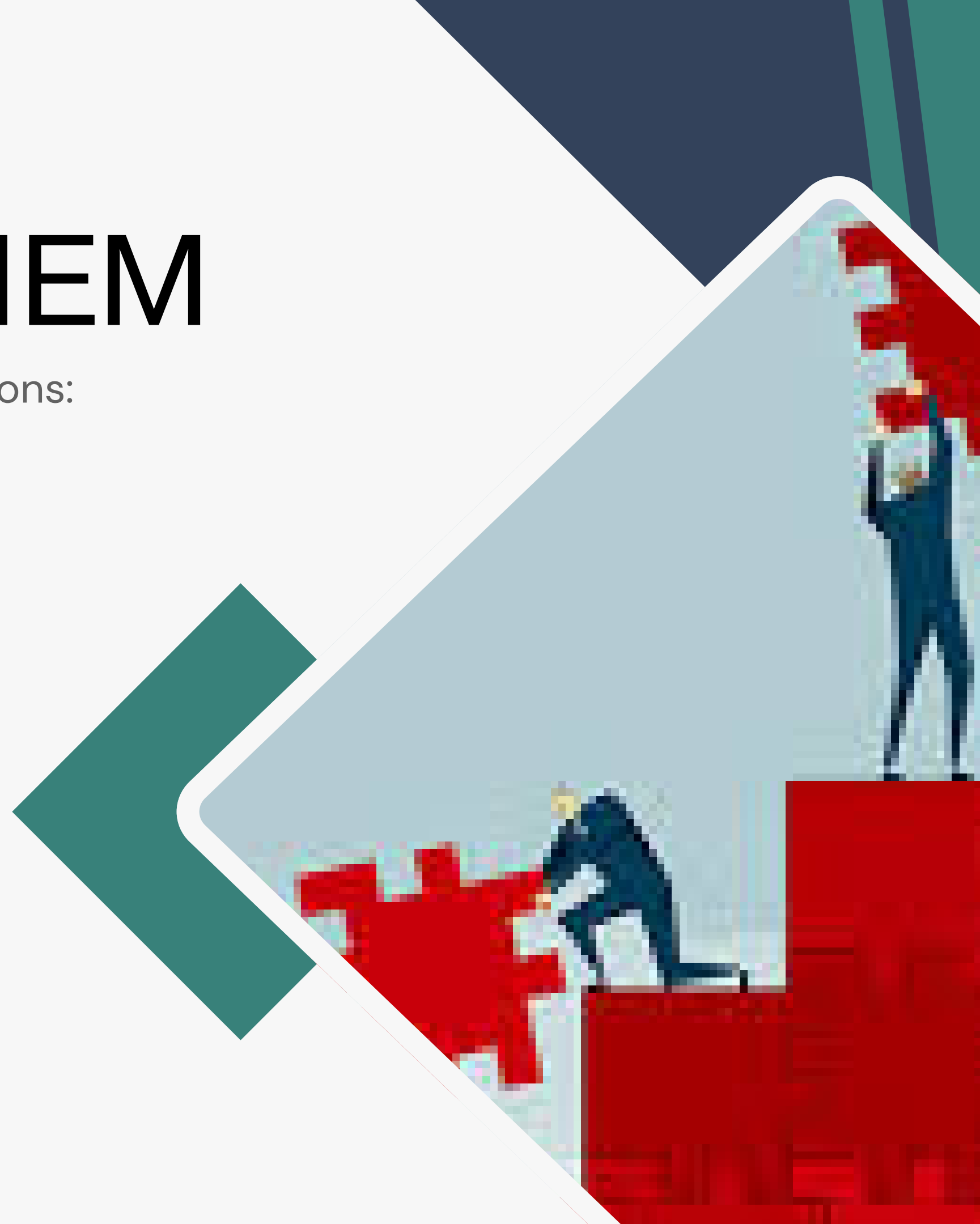
Assess and select vessels based on suitability for process operations

02

Determine required agitation levels based on vessel geometry and properties of reaction medium

03

Look-up property data from DIPPR; read from Aspen Properties and PPDS



USE OF DYNOCHEM

For Kilo Lab, Pilot Plants and Manufacturing Operations:

04

Design and analyse experiments to characterise heat transfer (UA) and mixing (e.g. solvent tests)

05

Predict scale-up of reactions based on reaction and vessel characteristics

06

Link DynoChem models to Batch Plus[®] models as Custom models, using the text recipe editor



USE OF DYNOCHEM

For Kilo Lab, Pilot Plants and Manufacturing Operations:

07

Extract knowledge from on-line temperature, pressure, uptake, IR, FBRM, PAT profiles

08

At-line, anticipate and detect end of reaction based on temperature, pressure, uptake, IR

09

Troubleshoot processes taking too long, giving lower yield, higher impurity or off-spec particle characteristics

10

Identify critical process parameters (CPPs) and scale them correctly from lab or pilot work



USE OF DYNOCHEM

For Process Safety Studies:

- 01 Determine safe dosing time / profile for reactions on scale
- 02 Leverage maximum information from Qr, IR data
- 03 Find conditions (e.g. temperature, catalyst loading) to make reactions dosing-controlled
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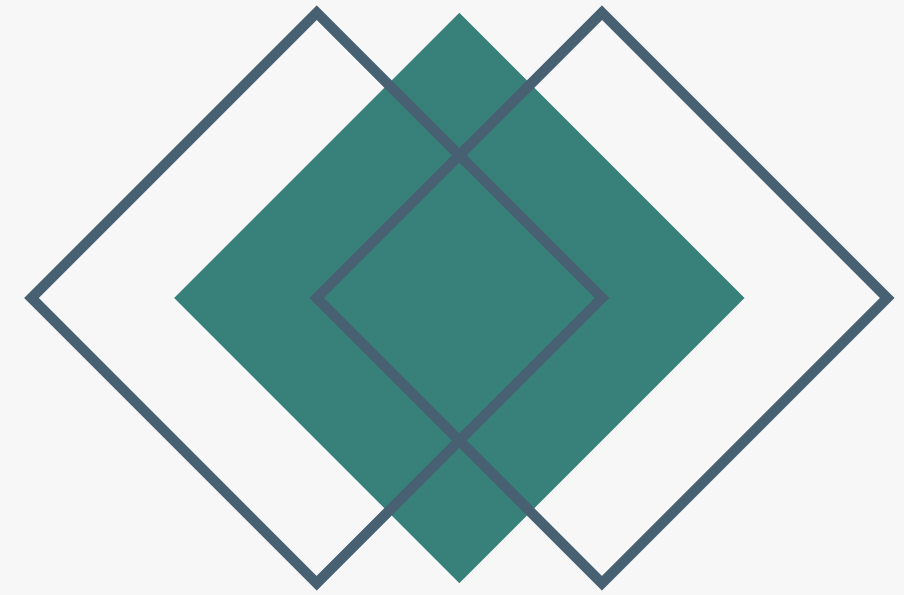
INNOVATION

We have used DynoChem for several of our projects and can say with confidence from anecdotal experience that we have had significant success in accuracy with regards to calculations, simulations and other related chemical processes in the pharmaceutical industry and more. We also focus on those solutions which are sustainable and follow all regulatory compliances



OUR EXPERTISE

With over 25+ years of experience in the field, we have encountered various complex projects that involved a combinations of various constraints related to budget, resources, compliance, sustainability, time, yield improvement and others. This has taught us to navigate through the contours of the chemical and pharmaceutical industry and provide exceptional service to our clients.



HOW WE CAN HELP

Our team is well-equipped in terms of both subject knowledge, and experience. This allows us to be proficient in applying theory to practice and getting the expected result without fail

Projects

- Accurate estimates and guaranteed results
- Timely completion, Regulatory Compliance and quality service
- Thorough involvement in the project from start to finish, with constant updates and reports.

Recurring Consultancy

We also suggest utilising our recurring consultancy services wherein we shall come once every few months and check the yield, equipment, time taken etc. and provide a report for any possible improvements that can be pursued.

CONTACT US

We aim to provide not only the best service, but also an overall experience wherein you are a constant part of the process. We analyse and present multiple tailored options for you to choose one that fits your requirements.



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THANK YOU!

We hope to hear from you soon!

Presented By: Pajaka Enterprises ———
