



Council for Mineral Technology



MINTEK

Presentation to:

SA COST Launch

COST Action D39: Metallo Drug Design and Action

8 September 2009

Dr Judy Coates

Presentation Outline

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- AuTEK Biomed
 - Overview
 - Consortium
 - International Collaborations
 - Growth Achieved
- The Beginning
 - Identifying COST Players
 - Italy '05 COST Travels
- Application Process
- Metallo-Drug Design Meeting
- COST Interactions
- Benefits
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 - To South Africa
- Acknowledgements



Overview of AuTEK Biomed

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AIM

Finding Novel Biomedical Applications for Gold, specifically looking at Metal-Based Drug Development for HIV, Malaria and Cancer



FUNDING STRUCTURE

Mintek (Science Vote) : Harmony
50:50

R3,2 mil : R3,2 mil (2007/8)

R3,6 mil : R2,5 mil (2008/9)

R10.9 : €1



AuTEK Biomed Consortium

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International Ties

Germany

Belgium

Sweden

Slovenia

Spain

Italy

UK

USA

COST

World Gold Council

Other

NECSA

CANSA

SAMI

PCDDP

CBT

SARIMA

SHARP

Local Universities

Cape Town

Johannesburg

KwaZuluNatal

Pretoria

Western Cape

Witwatersrand

Industrial Partner



**Gov Support
& Recognition**



AuTEK Biomed International Collaborations

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- Expertise Exchange
- Researcher Visitation
 - USA (Merck, Emory)
- Material Exchange
 - Italy (Rome)
- Collaborative Screening
 - Sweden (Lund)
 - Italy (Sassari)
 - Spain (Zaragoza)
 - USA (NIH, California)
 - Germany (Heidelberg)



AuTEK Biomed Growth Achieved

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Growth Achieved:

Consortium 2002: 6 researchers

Consortium 2009: 22 local researchers; 6 international

Core Group at Mintek 2002: 1

Core Group at Mintek 2009: 8

Graduates: 7 PhD, 13 MSc

Registered: 1 Post doc, 8 PhD, 4 MSc

Outputs:

180 Contributions, 88 at International Conferences and in Journals



The Beginning

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- Identifying COST Players
 - Research Visit to Heidelberg, Germany ('04)
 - Initiation of Research Collaborations
- Italy '05 Travels
 - COST B22 Workshop, Siena, Italy (September '05) - Malaria
 - COST D20 Workshop, Rimini, Italy (October '05) - Cancer
 - Collaborative Visits / Discussions
 - Wolfgang Weigand, Jena, Germany
 - Iztok Turel, Ljubljana, Slovenia
 - Enzo Alessio, Trieste, Italy
 - DST Sponsorship from FP6 Seed Funding Instrument (R16,000)

Application Process

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- Attendance of COST D20 Workshop, Rimini, Italy (September '05)
- COST D20 to D39
 - Delay Between Completion and Implementation
 - Chemistry TC Approved COST D39 Proposal (October '05)
 - Formal Approval of D39 Action (March '06)
- COST D39 Kick-off of Action (May '06)
- Application as an associate member (“non-COST institution”)
 - Slow Process
 - Working Group Selection and Manner of Participation
 - Submission to Management Committee
 - Formal Request to Committee of Senior Officials
 - Formal Invitation

Application Process

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- Application Submission
 - Precise, Clear and Strong Scientific Argument
 - Display How the Action will Benefit from Your Participation
 - Working Group Selection (May '06)
 - D39 Action 1st Management Committee Meeting (July '06)
 - Concerns Regarding the Incorporation of a Company (August '06)
 - Company to Show Greater Commitment
 - Financial support
 - Researcher exchange programmes
 - DST Co-Investment
 - Annual funding to Attend Annual Meetings
 - Funding to Organise SA-Based COST Meetings
 - Networking
 - Invitation to Attend COST D39 WG1 Meeting (June '07)
 - WG1: Bioorganometallic Drugs (September '07)
 - Various Revisions of Application Submitted to Address Concerns ('08)
 - Formal Acceptance (February '09)
 - Submission of Acceptance Letter (March '09)



Metallo-Drug Design Meeting

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COST D39 WG1 & 3 Meeting

Lausanne, Switzerland, September '07

- Workshop
 - Design and Biological Action of Metal-Based Drugs
 - Debiopharm - Therapeutic Development of Metal-Based Drugs
- Benefits
 - Exposure of South African Research Endeavours
 - Exposure to International Research Trends
 - Participation in Research Debates
 - Opportunity to Establish Collaborations through One-on-One Interactions
- Sponsorship
 - Mintek and Harmony Gold Mining Co. Ltd.
 - DST Sponsorship from FP7 Seed Funding Instrument (R13,000)



COST Interactions

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- Interactions Pre-Acceptance
 - Research Visitation, 4 mnth, '04
 - Material Exchange
 - Research Projects
 - Dedicated COST students working on projects
 - Progress reports
 - Hosting COST Members in South Africa
 - Publications

Benefits to COST

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- South African Offerings
 - Accommodating International Researchers in Our Laboratories
 - Sending Team Members to Share Expertise Abroad
 - Exploring the Therapeutic Properties of Promising Candidates
 - Providing Promising Candidates for Further Investigation
 - Initiation of Joint Projects of Scientifically Mutual Interest
 - Sharing our Information through Presentations at COST Meetings
- Specific Technical Benefits, providing specifics w.r.t.
 - Expertise Hub
 - Facilities
 - Display Local and International Ties
 - Scientific Contributions
- Show DST full support for incorporation, providing specifics



Benefits to South Africa

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- South Africa
 - International Researchers in Our Laboratories
 - Opportunity for Team Members Research Abroad
 - Opportunity to Publish with International Researchers
 - Exposure of South African Research Endeavours
 - Exposure to International Research Trends
 - Participation in Research Debates
 - Opportunity to Establish Collaborations through One-on-One Interactions
- AuTEK Biomed
 - Access to Larger Compound Libraries
 - Assistance in Developing Promising Candidates Further
 - Optimal Use of Expertise on Joint Projects
 - Access to Information through Participation in COST Meetings



Summary

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- Introduction to AuTEK Biomed
- Application Process - Lengthily but Rewarding
- Taste of a COST Meeting
- Types of COST Interactions
- Highlight of Benefits COST is Looking to Gain
- Benefits to South Africa
- Opportunities for Funding through DST



Acknowledgements

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AuTEK Biomed Team

Cancer (D20 / D39):

- Prof Nils Metzler-Nolte
- Prof Enzo Alessio
- Prof Wolfgang Weigand
- Prof Iztok Turel
- Prof Emanuela Licandro

Malaria (B22):

- Prof Andrea Savarino (HIV)
- Prof Donatella Taramelli

DST:

- Daan du Toit
- Mmboneni Muofhe
- Mamohloding Tlhagale

Incorporation:

Prof Michael Hannon
Dr Javier Caldentey

Funding:

- Mintek
- Harmony Gold Mining Co. Ltd.
- DST