





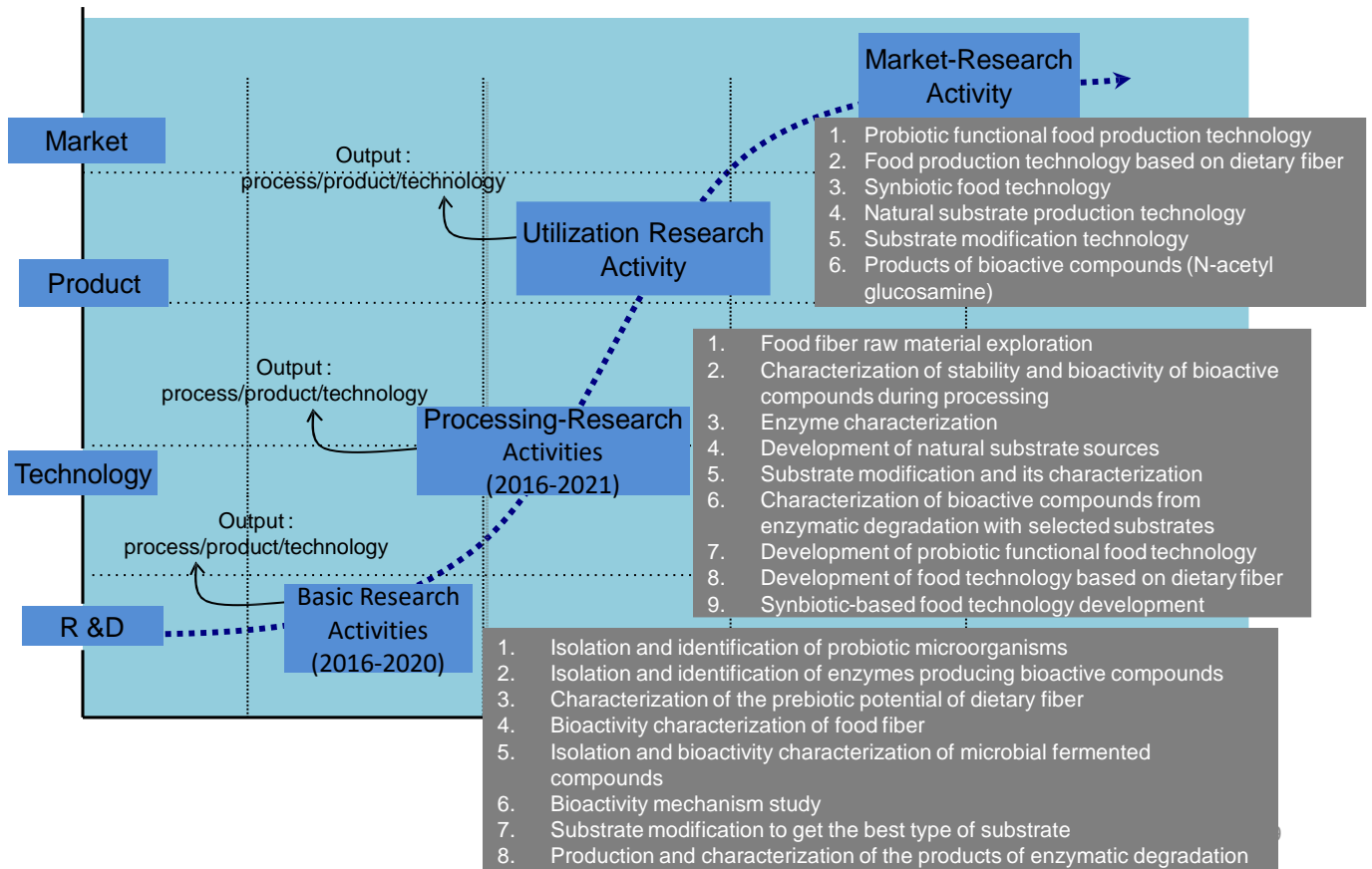
# Research Area

## Bioactive Compounds

This specialization aims to produce of bioactive compound. Bioactive compounds are capable of modulating metabolic processes and demonstrate positive properties such as antioxidant effect, inhibition of receptor activities, inhibition or induction of enzymes, and induction and inhibition of gene expression. Bioactive compounds consist of chemicals that are found in small volumes in plants and particular foods such as fruits, vegetables, nuts, oils and whole grains.

<b>Personnel</b>		
<b>Team Research Area Bioactive Compounds</b>		
	Prof. Dr. Rudiana Agustini	<b>Research Area:</b> Biochemistry-Microorganisms, isolation, extraction of enzymes and their applications.
	Dr. Nuniek Herdyastuti, M.Si.	<b>Research Area:</b> Proteins, enzymes and smart materials.
	Dr. Prima Retno Wikandari, M.Si.	<b>Research Area:</b> Development of fermented food.
	Mirwa A. Anggarani, S.Si., M.Si.	<b>Research Area:</b> Development of medicinal and supplement materials.

## ROADMAP OF BIOCHEMICAL RESEARCH “BIOACTIVE PRODUCTION”



### Research Project:

1. Effect of Processing on the Functional Value of Garlic and Black Garlic as Immune Enhancement in the Pandemic Period (2021, PNBP UNESA)
2. Nanoencapsulation of Yeast-Black Rice Extract as an Anti-Diabetes Mellitus Type 2 (Covid-19 Comorbid Disorder) Preparation (2021, DRPM)
3. Antioxidant Potential in Spiced Soy Milk to Improve the Immune System as an Antidote to Covid 19 (2020, PNBP UNESA)
4. Utilization of Soybean Seeds as Amylase enzymes Additive Powder Red Rice on Making Instant breastfeeding (Food Companion Asi (2020 PNBP UNESA)
5. Development of Shallot-Based Aromatherapy Products to Maintain Immune in Efforts to Combat the Covid-19 Outbreak (2020, PNBP UNESA)
6. Improve Cellular and Humoral Immunity Through the Use of Natural Inhibitor on Yacon Syrup (*Smallanthus sonchifolia*) Efforts Facing Covid-19 (2020 PNBP UNESA)
7. Studying the characteristics of the compound N-Acetyl glucosamine in the chitin hydrolysis process using the chitinase enzyme from *Pseudomonas* sp TNH54 (2017, DRPM)

8. Studying the effect of variations in the shape of the chitin substrate isolated from shrimp shell waste on the enzymatic degradation process of chitinase from *Pseudomonas Sp TNH54* bacteria (2013, DRPM)

### **Patent/Intellectual Property Rights:**

1. Laboratory Scale Chemical Practical Waste Treatment Methods (2019, ID: 201905407)
2. Chitinolytic, Chitinase and Chitin (2020, ID: Ec00201947508)
3. Production Process of Knife Shell Antioxidant Crude Extract (2019, ID: P00201910313)
4. Biochemistry 1 (2018)
5. Analysis Of N-Acetylglucosamine from Enzymatic Degradation of Amorphous Chitin (2017, ID: C00201702838)
6. Basic Chemistry 1 (2017, ISBN: 978-602-449-065-2)
7. *Lactobacillus Plantarum* B1765 As a Starter Culture in Bekasam Pharmacy (2016, ID: P00201604806)
8. Probiotic Coffee Beverage Production with Starter Culture *Lactobacillus Plantarum* B1765 (2016, ID: P00202009037)
9. Isoniazid Encapsulation Method Using Chitosan Calcium Alginate with Emulsifier Tween 80 (2017, ID: P000048611)
10. General Chemistry (2016, No. Hak Cipta: 083837)

## Publication

No.	Year	Title	Name of Journal	Quartil	Category	URL/DOI
1	2019	The Composition of Water and Ash of Secang Wood's Simplicia and Secang Wood Herbal Drink Powder	Journal of Physics: Conference Series 1417(1)	Q4	Conference Proceedings	<a href="https://iopscience.iop.org/article/10.1088/1742-6596/1417/1/012033/pdf">https://iopscience.iop.org/article/10.1088/1742-6596/1417/1/012033/pdf</a>
2	2019	Characterization of yeast hydrolysate enzymatic (yhe) from yeast fermented in the variation of rice flour	Journal of Physics: Conference Series 1156(1)	Q4	Conference Proceedings	<a href="https://doi.org/10.1088/1742-6596/1156/1/012006">https://doi.org/10.1088/1742-6596/1156/1/012006</a>
3	2019	The Chemical Properties Comparative of Yeast Hydrolysate Enzymatic (Yhe) From Yeast That Fermented In Rice Flour Variation	Rasayan Journal of Chemistry 12(4)	Q2	Journal	<a href="http://dx.doi.org/10.31788/RJC.2019.1245314">http://dx.doi.org/10.31788/RJC.2019.1245314</a>
4	2019	Potential Of Yeast Hydrolysate Enzymatic from Baker's Yeast Fermented in Several Rice Flours Medium as Anti-Diabetes Type 2	Rasayan Journal of Chemistry 12(4)	Q2	Journal	<a href="http://dx.doi.org/10.31788/RJC.2019.1245411">http://dx.doi.org/10.31788/RJC.2019.1245411</a>
5	2018	Optimizing the Drying Temperature of Temulawak Simplicia (Curcuma xanthorrhiza Roxb.) Based on Water and Ash Content and Functional Compound	Journal of Physics: Conference Series 1108(1)	Q4	Conference Proceedings	<a href="https://iopscience.iop.org/article/10.1088/1742-6596/1108/1/012099/pdf">https://iopscience.iop.org/article/10.1088/1742-6596/1108/1/012099/pdf</a>