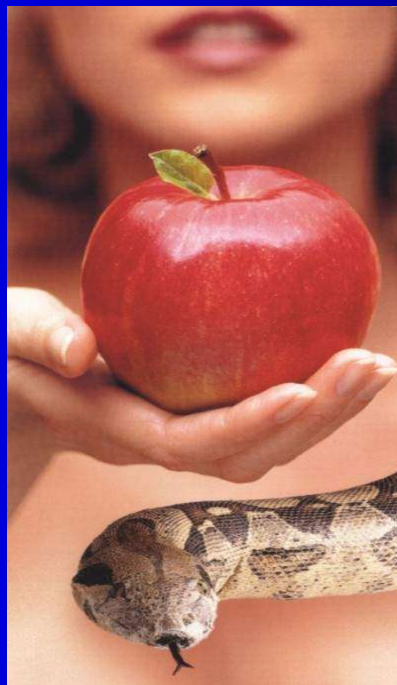


# OSNOVE PREHRANE - PREDSTAVITEV

2. letnik Živilstvo in prehrana



prof.dr.Marjan Simčič ( [marjan.simcic@bf.uni-lj.si](mailto:marjan.simcic@bf.uni-lj.si) )

Odd. za živilstvo, Katedra za tehnologije, prehrano in vino -TPV

Laboratorij za prehrano

Pritličje naravnost  
Asisrentka - dr. Jasna Bertoncelj  
[jasna.bertoncelj@bf.uni-lj.si](mailto:jasna.bertoncelj@bf.uni-lj.si)

Pritličje desno  
POMOČ Raziskovalki (doktorantki):  
Ksenija Podgrajšek dipl.ing  
Tamara Puš dipl.ing



ponedeljek, torek, sreda 10.15

četrtek 11.15



- december – januar

Predavanja (35), vaje (15), seminarske vaje (25)

- pisni kolokvij - 20.01.11 (pogoj za izpit)
- Izpit pisni - februar

**AKTIVNA PRISOTNOST do 10% ocene**

# 2 PREDSTAVNIKA LETNIKA

- NEPOSREDNO STIK 041 202 764
- Vodita “administrativne zadeve”
- Zbirata pripombe, predloge, pohvale ...PPP..
- Razno



# OSNOVE PREHRANE PROGRAM

- Uvod - osnovni pojmi
- Energija
- Ogljikovi hidrati
- Maščobe
- Beljakovine
- Vitamini
- Minerali
- Alkohol
- Voda





# OSNOVE PREHRANE PROGRAM

## PREDAVANJA

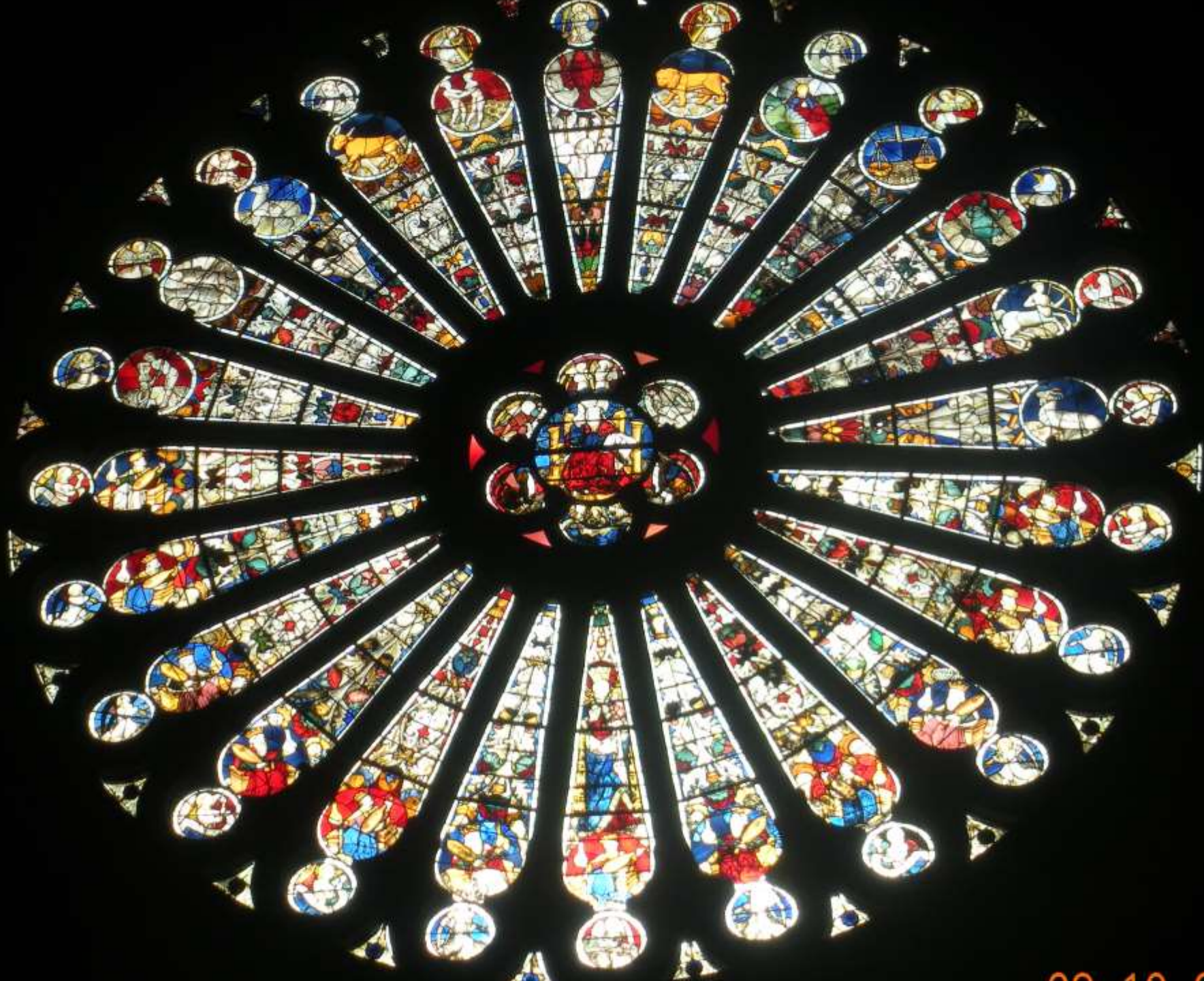
- Seminarske vaje  
(vrednotenje prehrane posameznika)

## VAJE

- Prehranski izračuni
- Izivi



Magnelli  
1914











i'm lovin' it®



## Res dobra, ne samo dobra zate.

Ker je bogata z vlakninami, minerali in vitamini, je solata dobra zate. McDonald'sova solata je poleg tega še zelo okusna. Hrustljavost in svežino ji zagotavljajo našančno določeni in nadzorovani postopki pridelave in transporta. Vsa naša solata je ročno lažrana, namazana, oprana v ledeni vodi in pakirana v kontrolirano atmosfero. Še kdo tako skrbi za svojo solato?

Želite o pripravi naših jedi izvedeti še več?  
Obiščite [www.mcdonalds.si](http://www.mcdonalds.si) ali [www.mcdonalds.si](http://www.mcdonalds.si)



## LEPA IN ZDRAVA

*Recepti za dobro počutje in lepo postavo*



*V knjigi boste našli veliko zanimivih informacij, obsežnih preglednic in praktičnih nasvetov. S pomočjo receptov, ki so v knjigi si boste lahko pripravili okusne jedi za dobro voljo in odlično počutje. S telovadnimi vajami bodo vaše noge lepe in zadnjica čvrsta. Znebite se celulita s telovadbo in pravilno prehrano.*

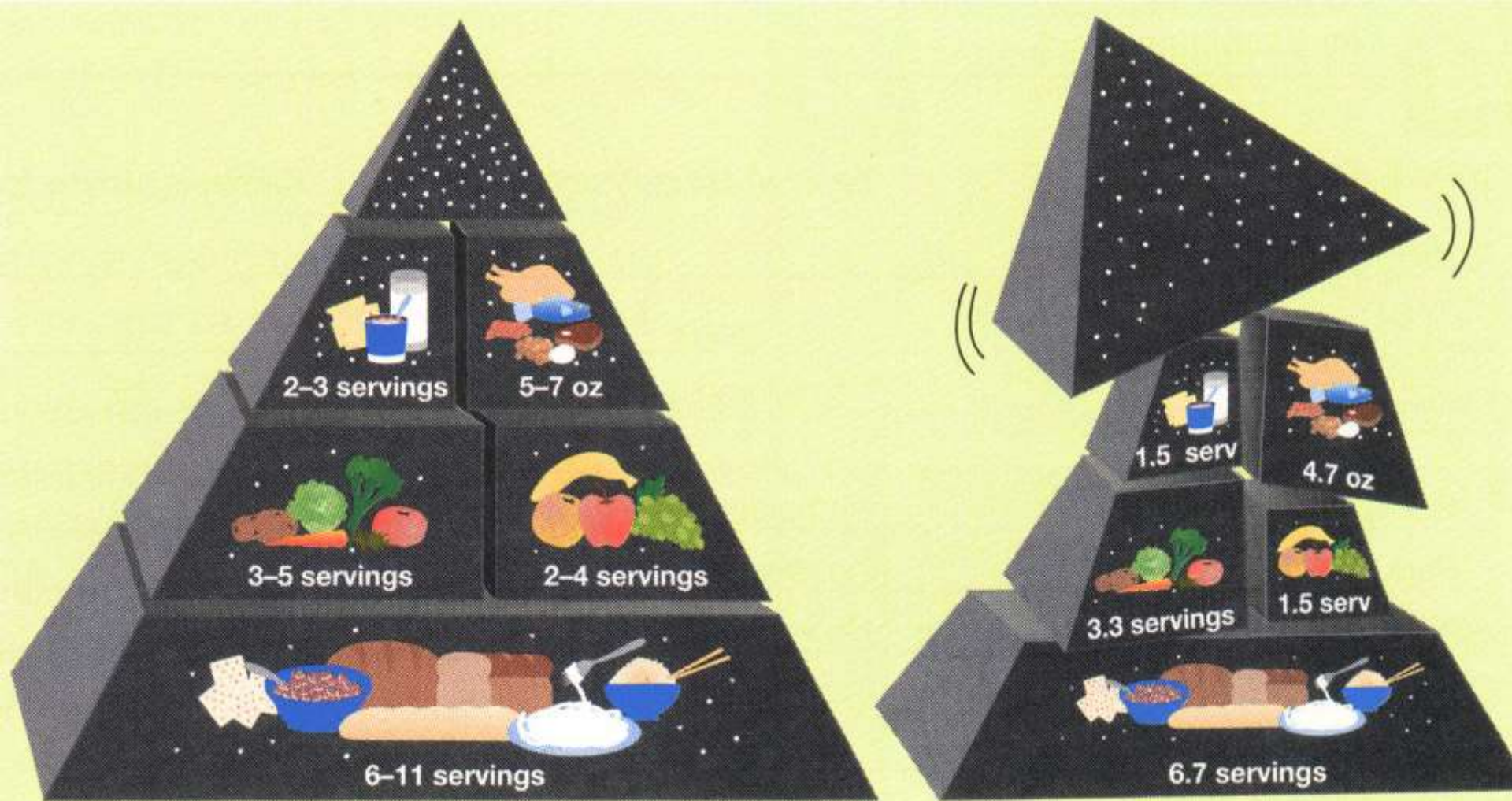


*Dobra forma in kondicija skozi vse leto. Za svojo življenjsko moč in dobro počutje lahko najbolje poskrbite tako, da svojemu telesu privoščite »notranje spomladansko čiščenje«. Okusne jedi vam bodo vlijele novih moči, izboljšale presnovo, spodbudile delovanje jeter, žolča in ledvic ter pomagale pri čiščenju krvi in odvajanju vode iz telesa.*









Sadje in zelenjava 600g/dan

# Willettova piramida



Leta 2005 nova prehranska piramida.

Osebni pristop k zdravemu prehranjevanju in fizični aktivnosti.



Legenda: Oranžna – žita; Zelena – zelenjava; Rdeča – sadje;

Rumena – maščobe; Modra – mleko; Vijolična - meso in stročnice

Fizična aktivnost - stopnice.

Raznoverstnost – šest barv, ki predstavljajo posamezne skupine živil

(Dietary guidelines for Americans, 2005).



# MyPyramid

STEPS TO A HEALTHIER YOU

MyPyramid.gov



GRAINS

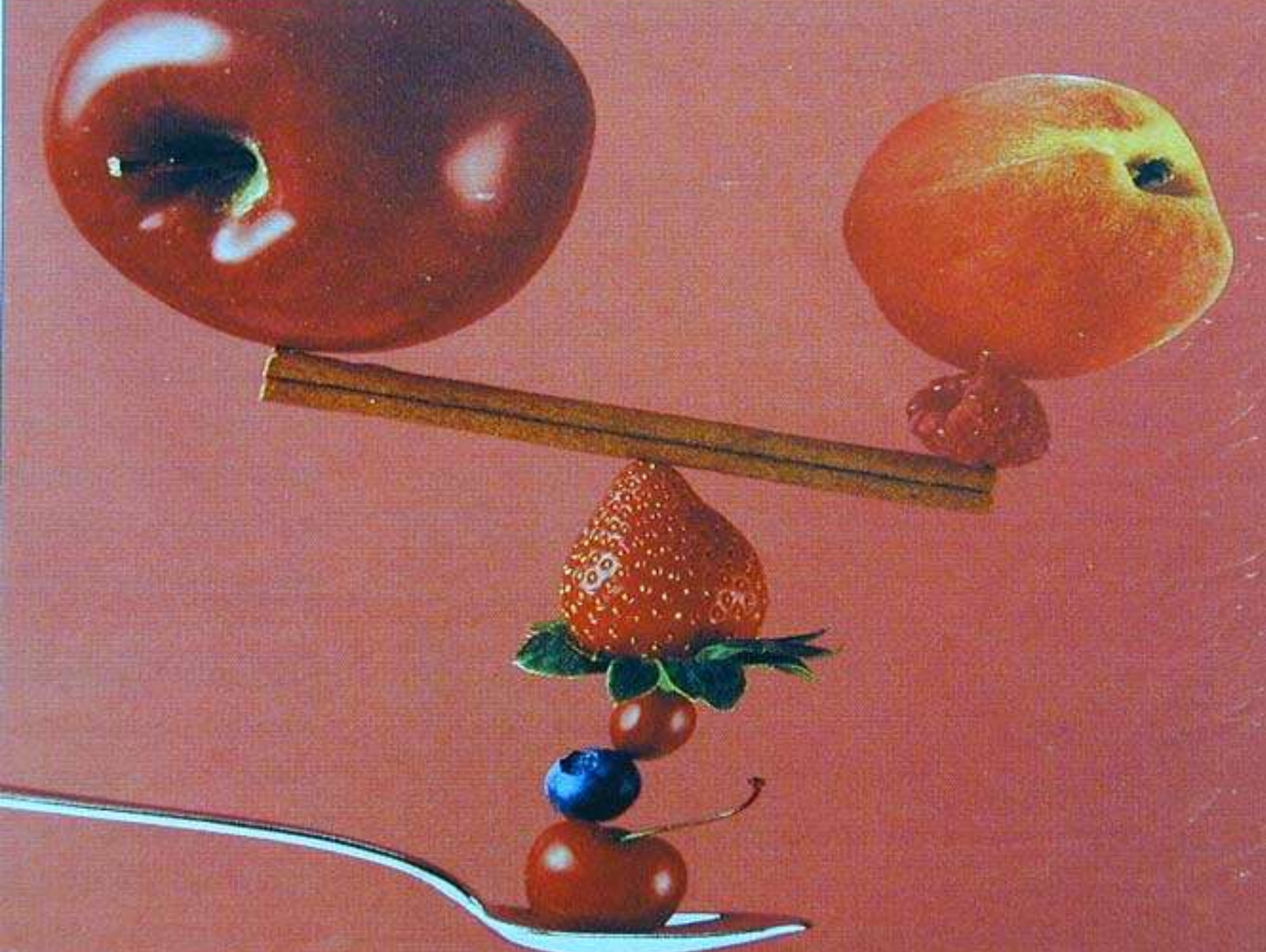
VEGETABLES

FRUITS

MILK

MEAT & BEANS



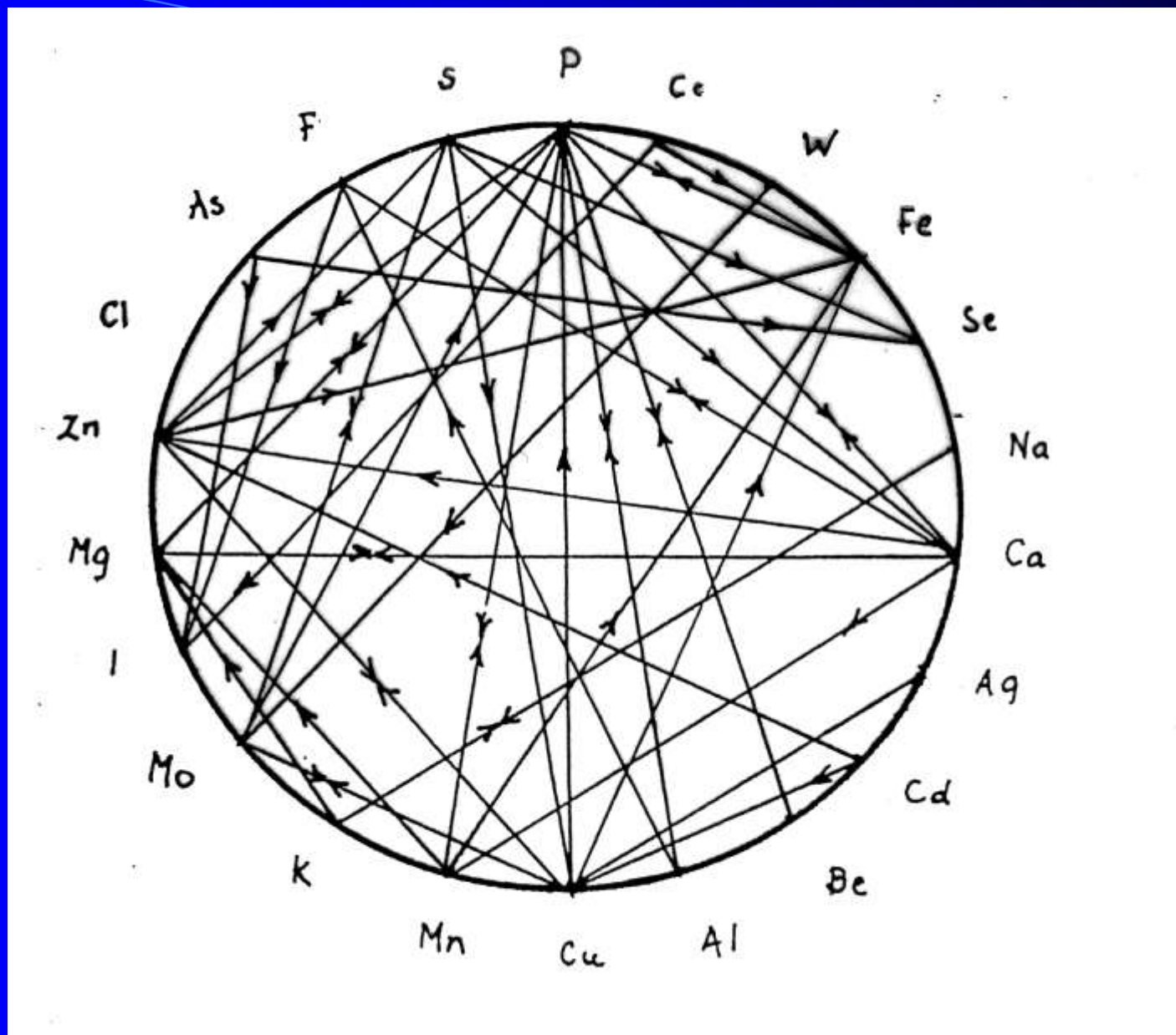




IT'S VERY IMPORTANT TO  
HAVE A BALANCED DIET

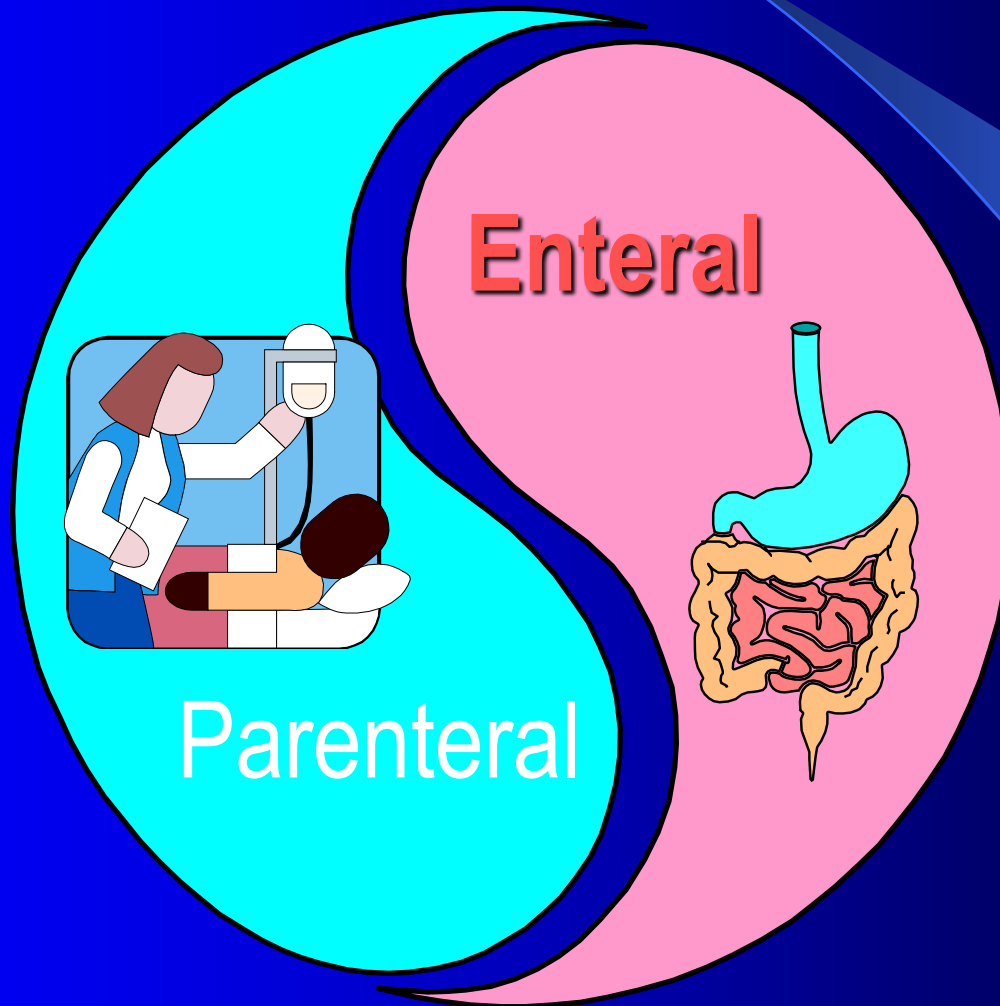






Znane interakcije med minerali pri njihovi absorpciji in izkoriščanju v organizmu (Jakobson in sod. 1972). (Salobir 1977, BŽD)

# Pharmaceutical Aspects: Alternativna prehrana ?





# SREDOZEMSKA PREHRANA

varovalne snovi



# ZELENJAVA IN ZDRAVJE

**GLUKOZINOLATI**  
(in njihovi razgradni produkti)

**NIZKA**  
**ENERGETSKA GOSTOTA**

**ŽVEPLOVE**  
**SPOJINE**

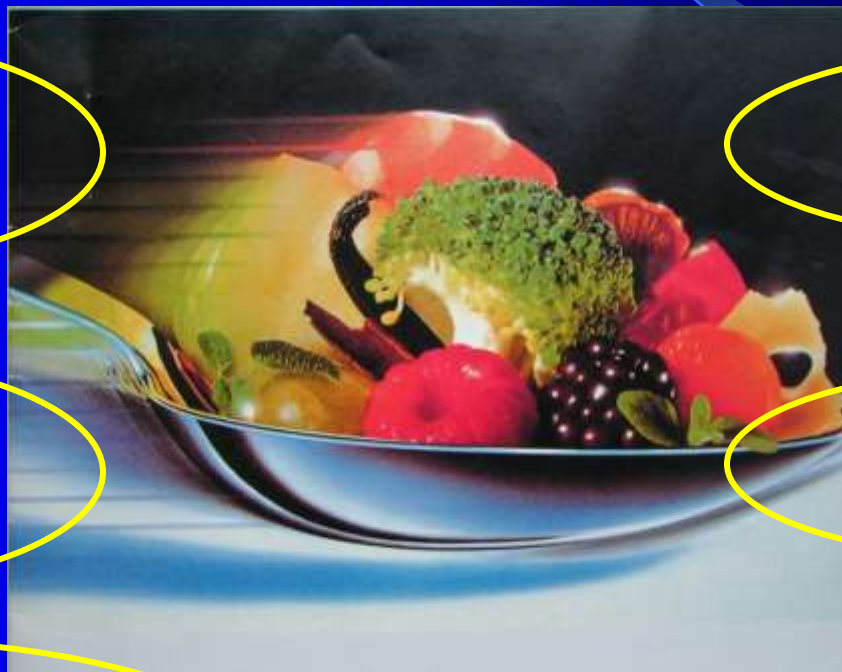
**FENOLNE**  
**SPOJINE**

**PREBIOTIČNI**  
**OLIGOSAHARIDI**

**MINERALI:**  
**Ca, Mg, Fe, Se**

**NETOPNE VLAKNINE**  
**TOPNE VLAKNINE ( $\beta$ -glukani),**

**VITAMINI:**  
**A, C, E, K in B kompleks**



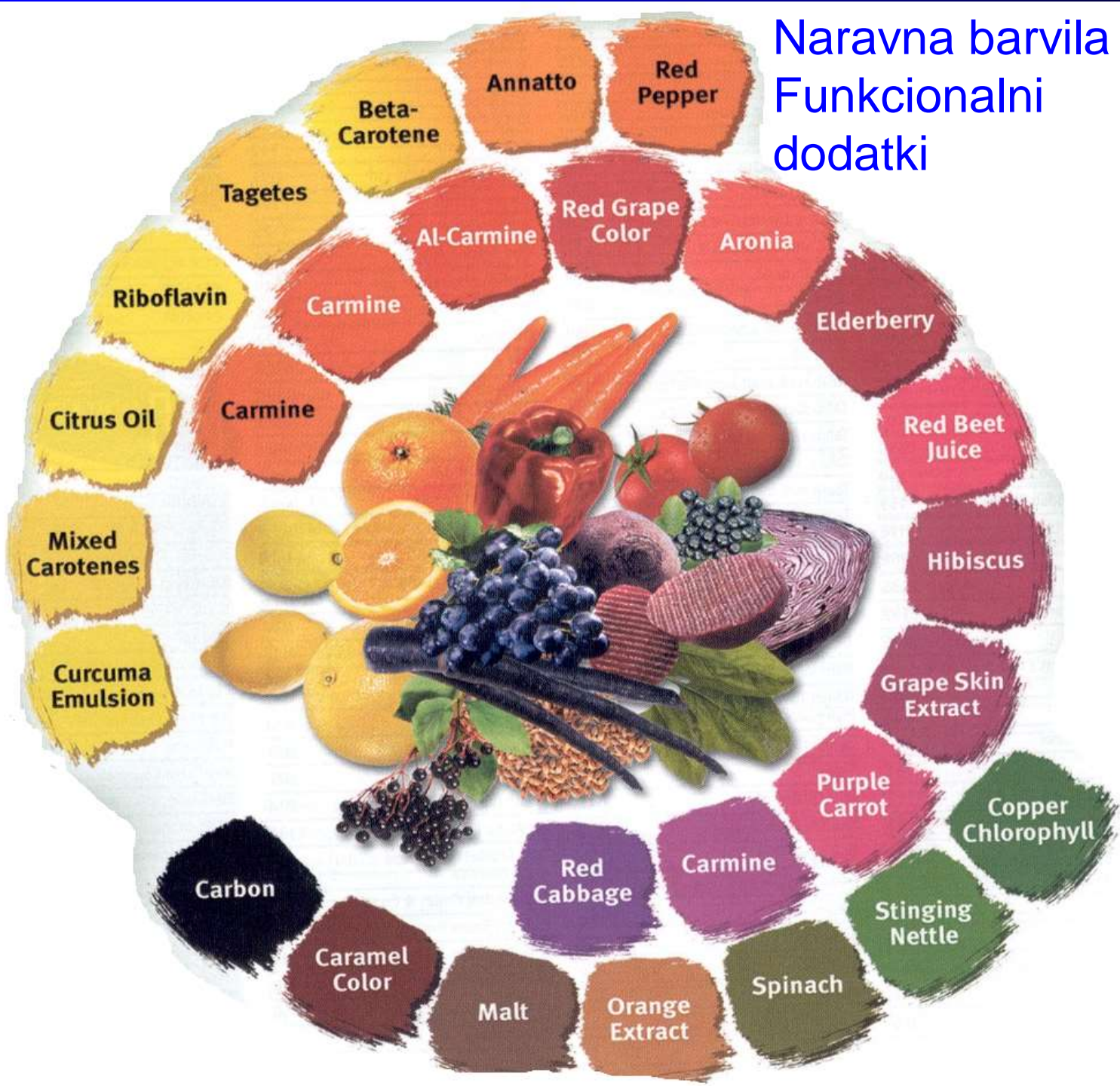


# Proti kancerogene snovi v sadju in zelenjavi

(Vir: Campos FG in sod., 2005 - povzeto po Hlastan - Ribič)

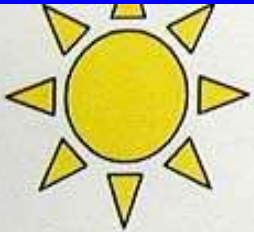
Substance	Vir	Preventivni učinek
<b>Antioksidanti</b>	<b>Vse rastline</b>	<b>Zmanjša oksidativne poškodbe</b>
<b>Folati</b>	<b>Zelena zelenjava</b>	<b>Zmanjša hipometilacijo DNA</b>
<b>Glukozinolati</b>	<b>Kapusnice</b>	<b>Poveča aktivnost encimov (popravljanje napak v bio.sist)</b>
<b>Indoli</b>	<b>Kapusnice</b>	<b>Poveča aktivnost encimov</b>
<b>Flavonoidi</b>	<b>Sadje, zelenjava</b>	<b>Antioksidativni učinek</b>
<b>Fenoli</b>	<b>Sadje, zelenjava</b>	<b>Inhibicija nitrozaminov</b>
<b>Inhibitorji proteaz</b>	<b>Semena, stročnice</b>	<b>Inhibicija proteaz</b>
<b>Izoflavoni</b>	<b>Soja</b>	<b>Inhibicija P450 encimov</b>
<b>Lemonin</b>	<b>Citrusi</b>	<b>Pospeševanje glutathion transferaze</b>

# Naravna barvila Funkcionalni dodatki





# Vitamin C



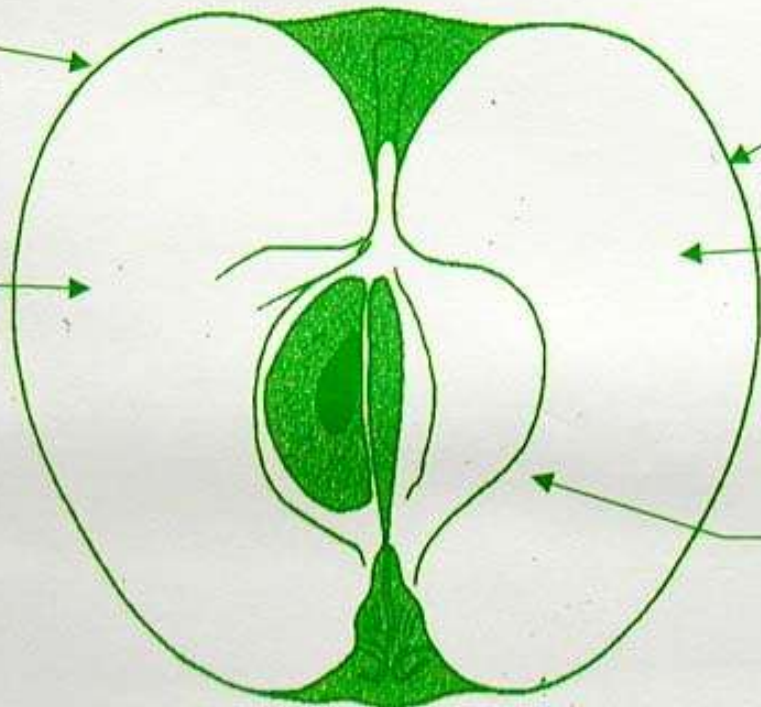
123,1 ± 21,3 mg/100g

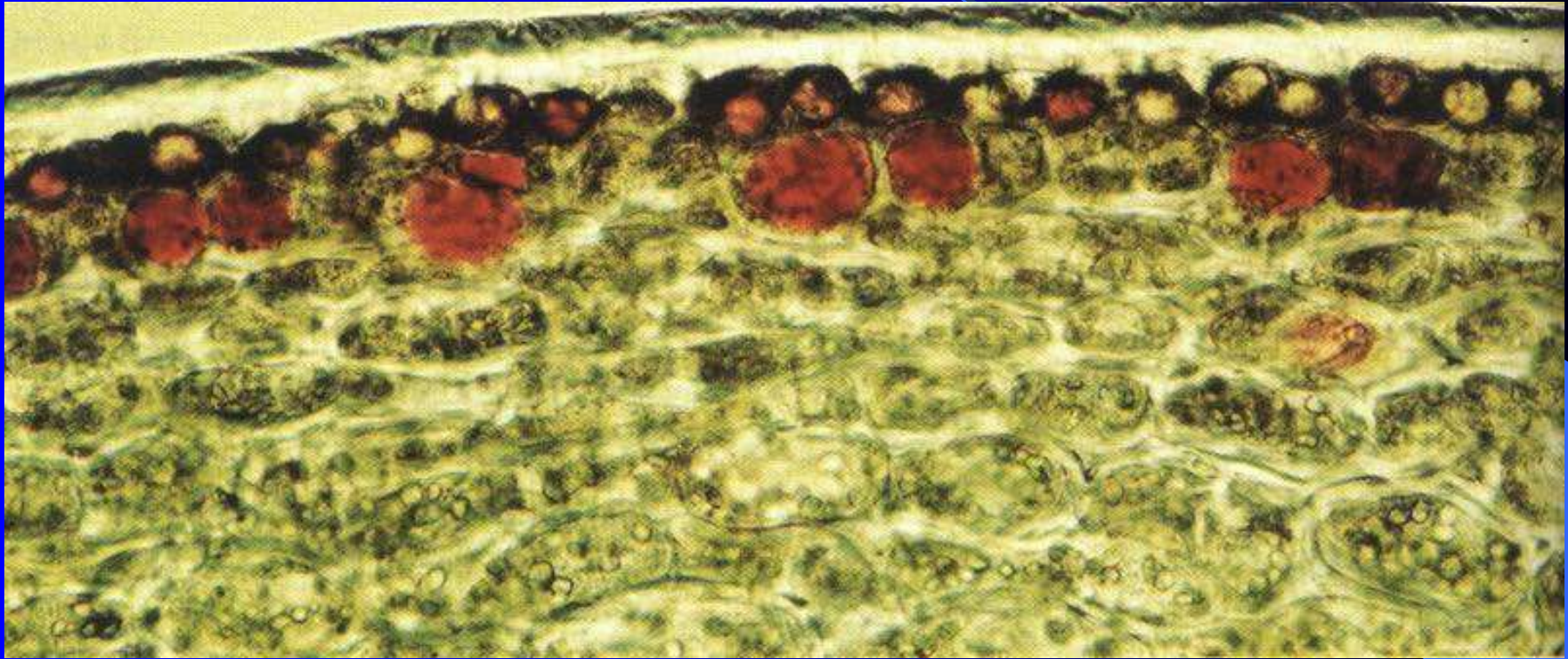
35,4 ± 12,3 mg/100g

8,4 ± 1,3 mg/100g

4,1 ± 0,9 mg/100g

2,3 ± 0,8 mg/100g





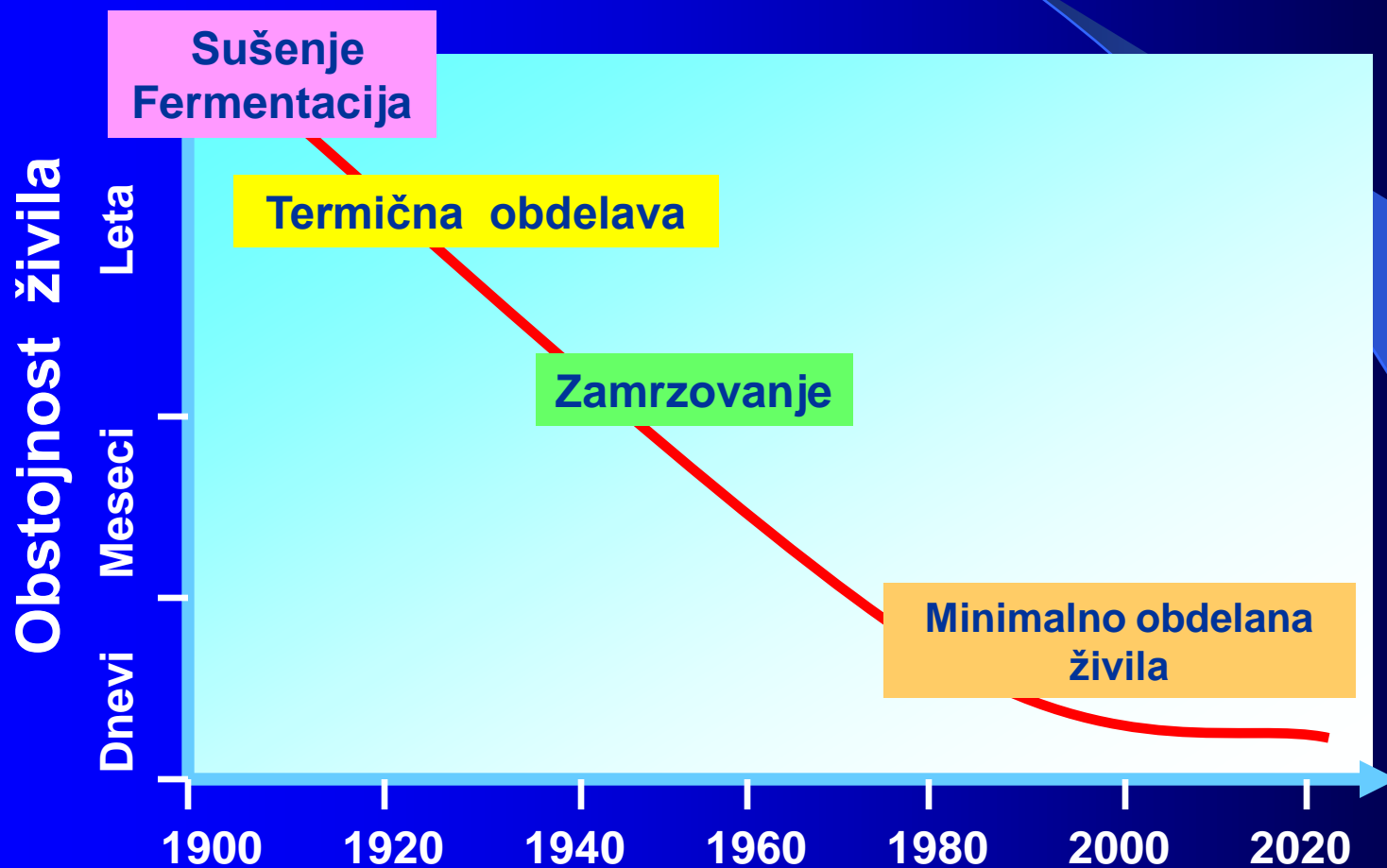




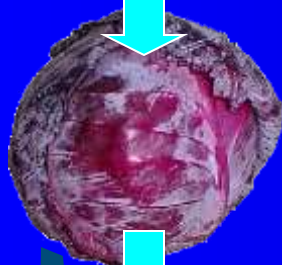




# Tradicionalne in nove tehnologije



# Spremembe med predelovalno verigo



**Pridelava**

Kultivar  
Prehrana rastline  
Klimatski pogoji  
Čas obiranja

**Skladiščenje**

Čas  
Temperatura  
Vlažnost  
Atmosfera

**Predelava**

Čas  
Temperatura  
Vlažnost  
Fizikalne poškodbe

**Pakiranje**

Atmosfera  
Vlažnost

**Skladiščenje**

Čas  
Temperatura  
Vlažnost  
Atmosfera  
Barierne lastnosti

**Obdelava pri  
potrošniku**

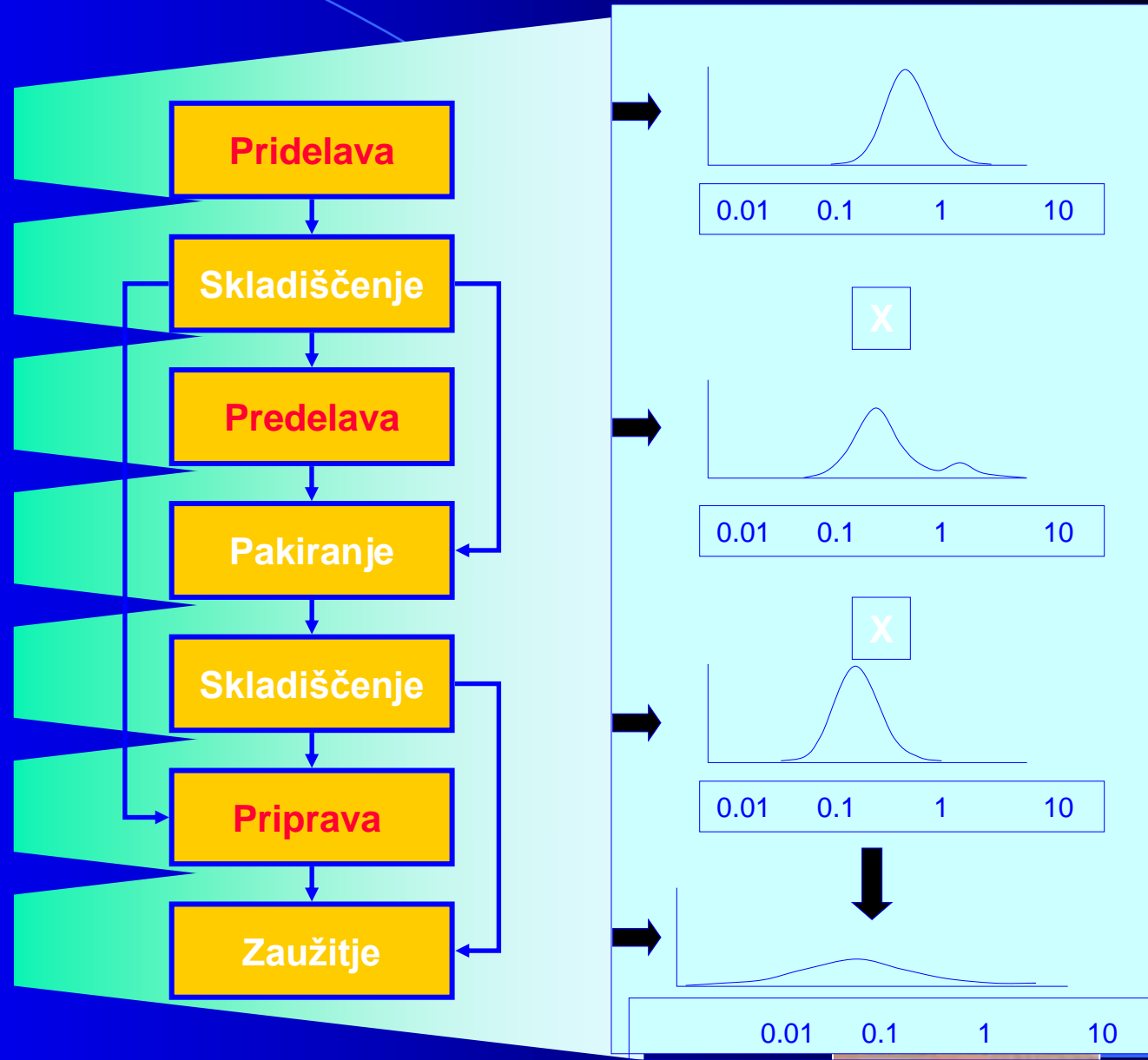
Čas  
Temperatura  
Fizikalne poškodbe

**Obrok**

Dostopnost  
Biološka aktivnost  
Kinetika delovanja  
Individualne razlike



# Prehrenska veriga



# Kakovost v prehranski verigi

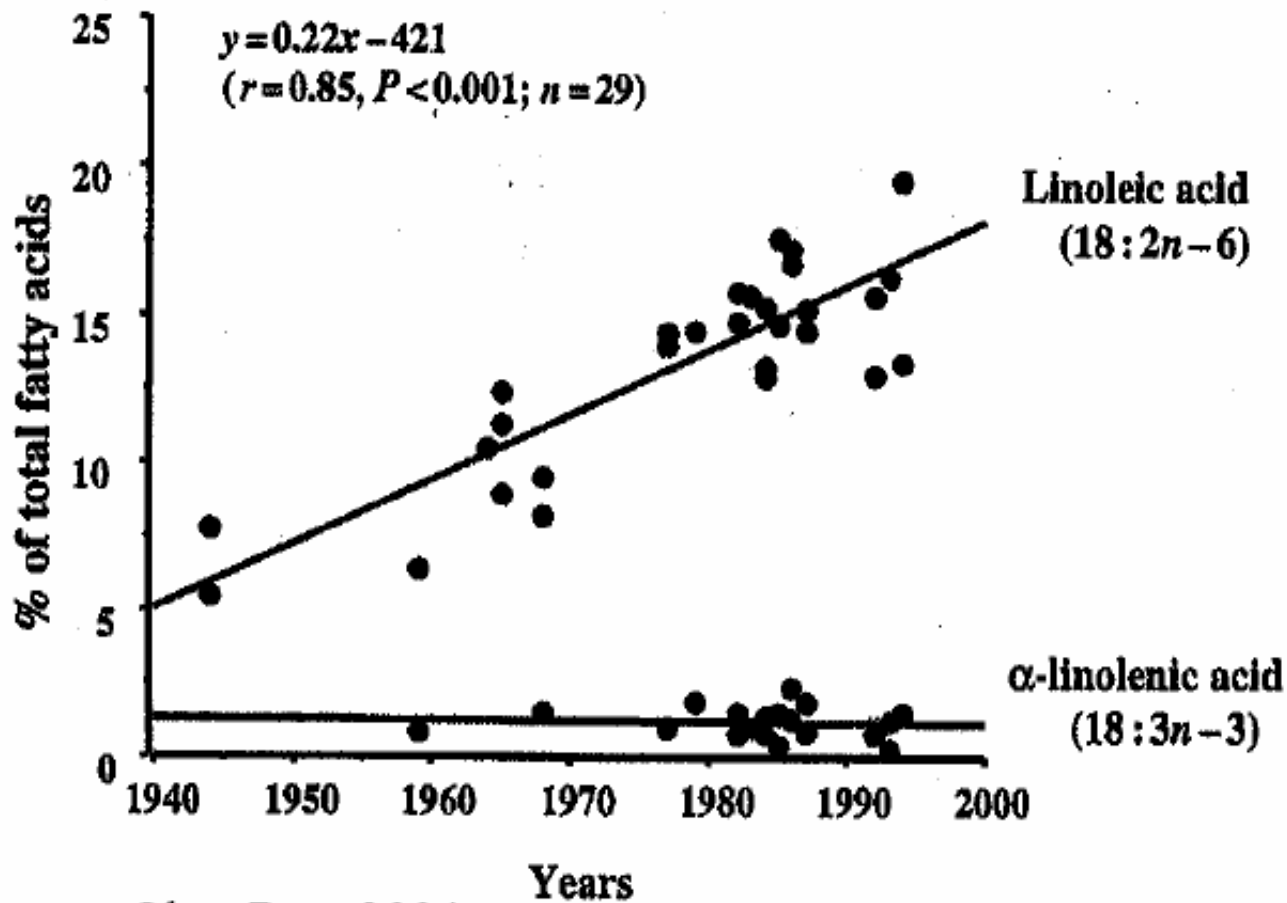
Sedanjest



Bodočnost ?



# Linolenska kislina n-6 in linolna kislina n-3 v materinem mleku (spremembe v ZDA od leta 1945 do leta 1995)



Ailhaud and Guesnet, *Obes Rev*, 2004



# Immunonutrients

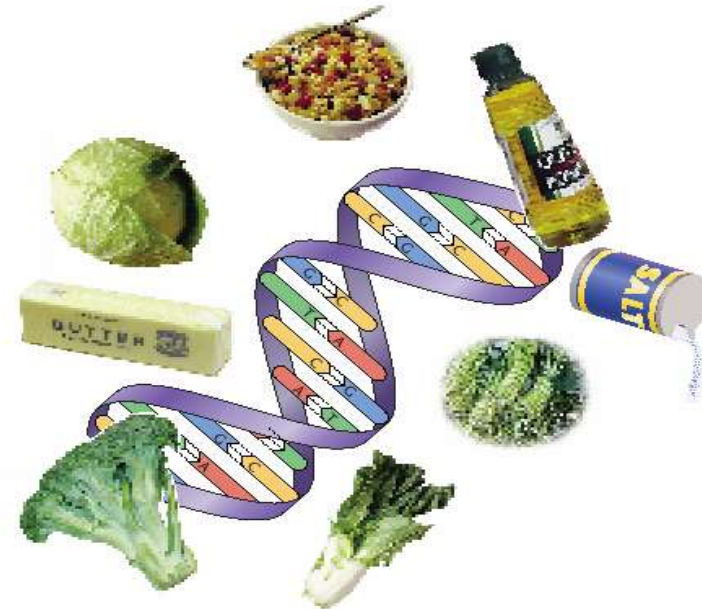
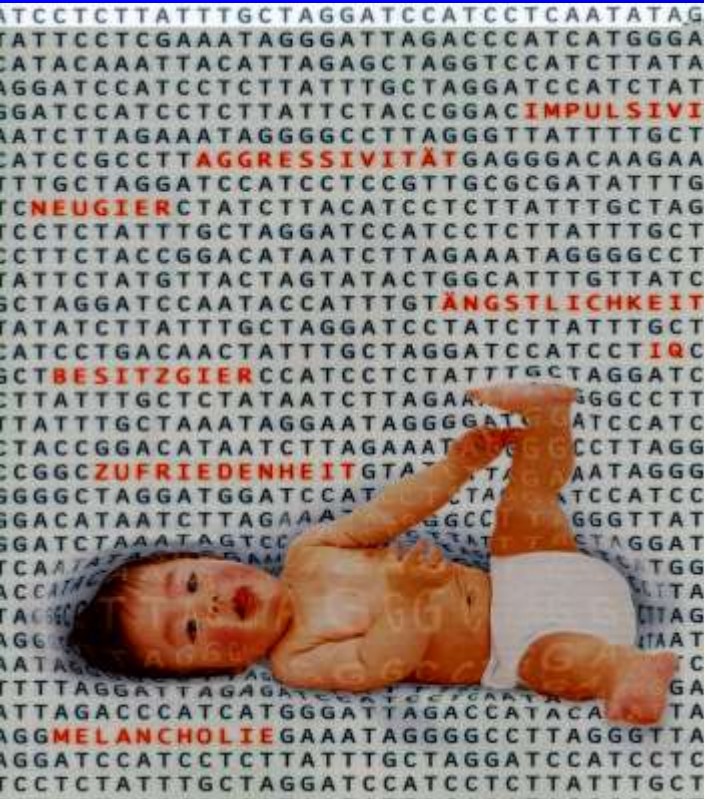
**Glutamine**

**Arginine**

**LC-PUFA**

**Nucleotides**

# NUTRIGENOMIKA!?



# KAM ?!

**Skupnostna prehrana**  
(Prehranjevanje po skupinah)





# DNA Diet Foods

©2005 Carolyn Katzin  
www.thednadiet.com



## The genes in the profile currently include:

- **APOC3, CETP, LPL and eNOS** - involved in lipid metabolism
- **MTHFR, MS-MTRR MTR and CBS** - B vitamin genes involved in maintenance and repair especially of heart and nervous systems
- **MnSOD and SOD3** - antioxidant genes
- **IL-6 and TNF alpha** - markers of inflammation
- **ACE, PPAR gamma-2 and VDR** - involved in glucose and insulin regulation
- **VDR, COL1A1** - involved in bone and structural health
- **GSTM1, GSTT1, GSTP1** - detoxification genes

A simple mouth (buccal) swab test is all you need. No blood test required.

The laboratory analysis and personalized diet report preparation takes 4-6 weeks. Once you have received your report you have a diet consultation (in person or over the phone). For those who wish to lose weight we offer a six week program with proven success of loss of fat around the waist.

Order online at this secure website [www.cancernutrition.com](http://www.cancernutrition.com) or by calling toll free **1-866-471-0529**

**Take action today - learn how your body likes to eat healthfully!**







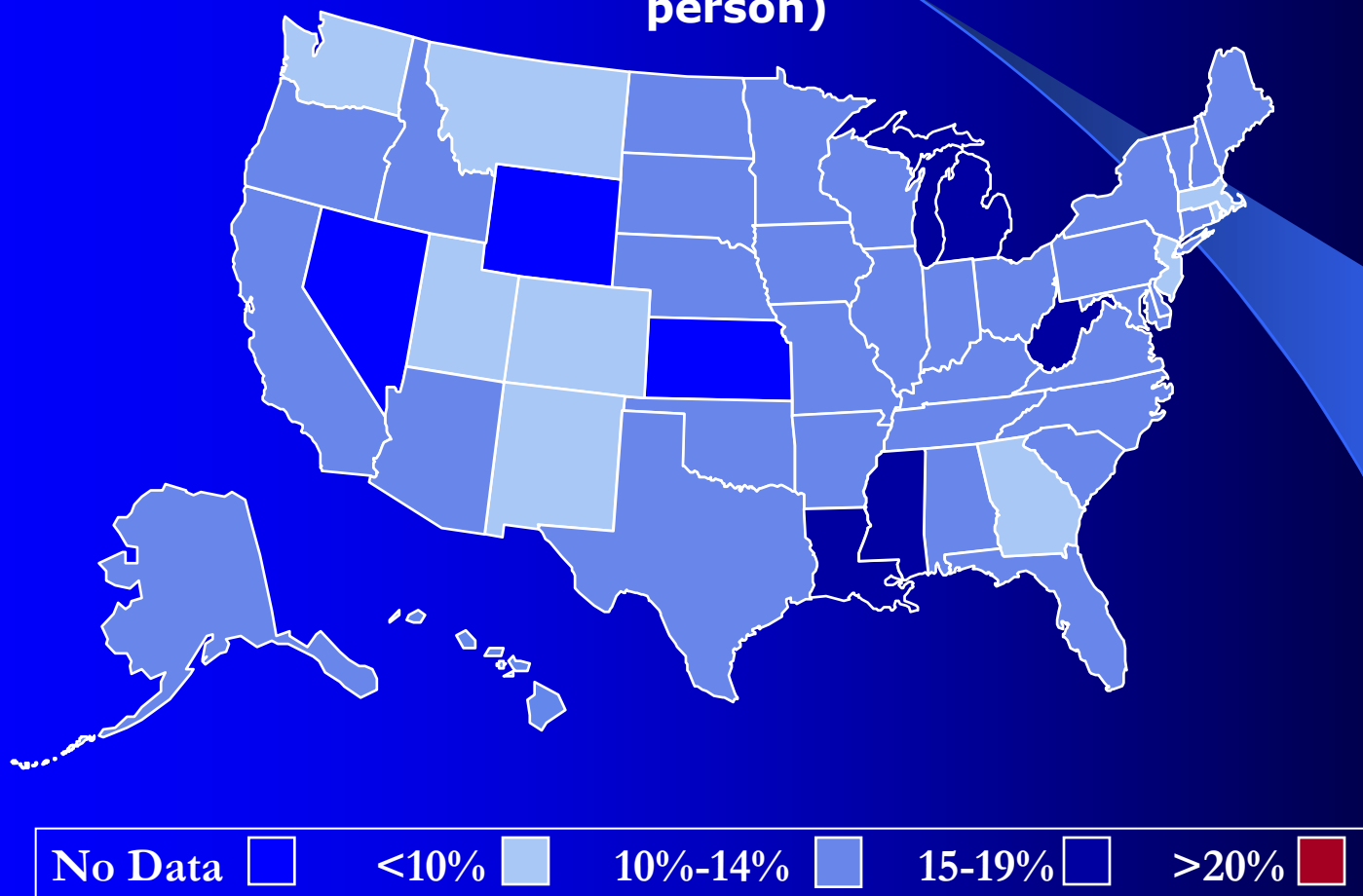
[marjan.simcic@bf.uni-lj.si](mailto:marjan.simcic@bf.uni-lj.si)



# Obesity\* Trends Among U.S. Adults

## BRFSS, 1991

(\*BMI  $\geq 30$ , or  $\sim 30$  lbs overweight for 5'4" person)



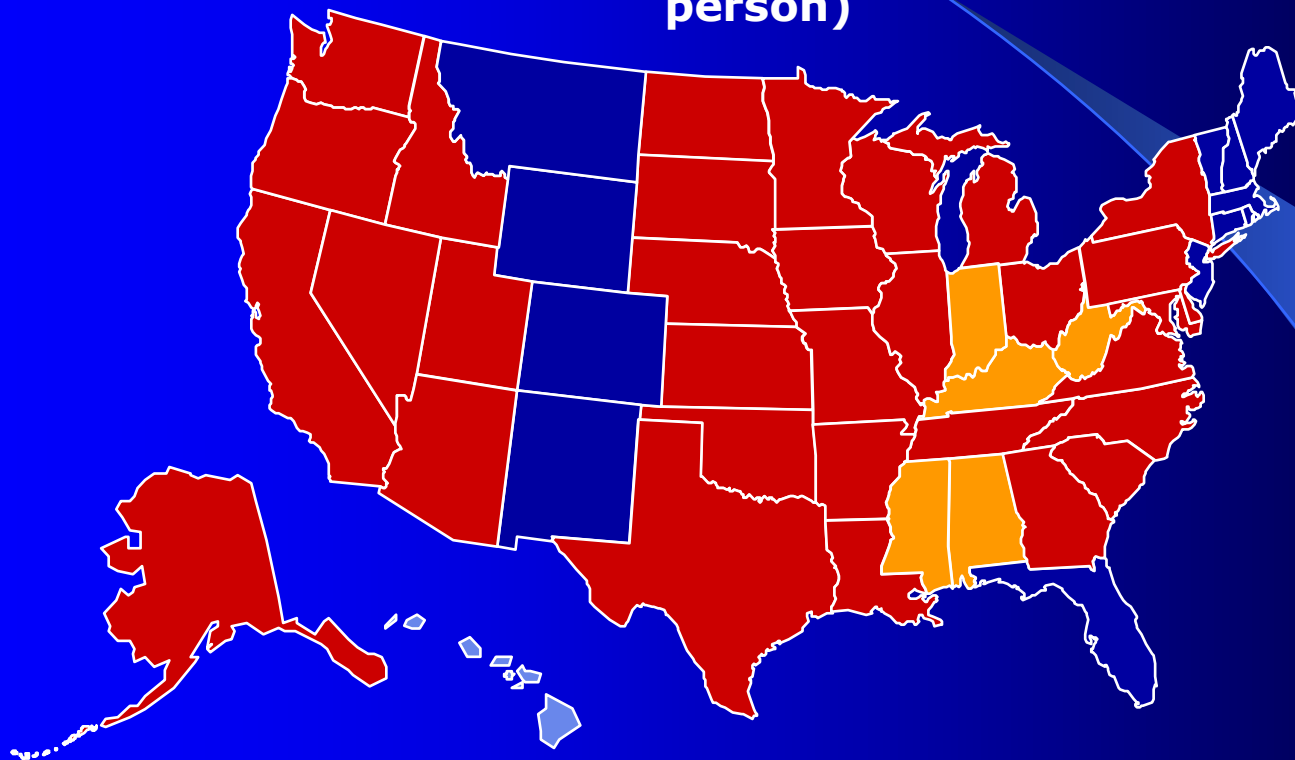
Source: BRFSS, CDC.



# Obesity\* Trends Among U.S. Adults

## BRFSS, 2003

(\*BMI  $\geq 30$ , or  $\sim 30$  lbs overweight for 5'4" person)



Source: BRFSS, CDC.



# The obesity epidemic serves as a backdrop for nutritional concerns



**BIOTEHNIŠKA FAKULTETA**

Oddelek za živilstvo

Laboratorij za prehrano

# **NUTRIGENOMIKA**



prof. dr. Marjan SIMČIČ

UNIVERZA V LJUBLJANI  
BIOTEHNIŠKA FAKULTETA  
ŽIVILSKA TEHNOLOGIJA



## **NUTRIGENOMIKA**

**Seminarska naloga pri predmetu  
Dietetika s patofiziologijo**

**Katja Japelj, Nuša Košar**

**Ljubljana, 2008**

UNIVERZA V LJUBLJANI  
BIOTEHNIŠKA FAKULTETA  
ŽIVILSKA TEHNOLOGIJA

## **Nutrigenomika**

**Ana Anita Matič in Iztok Borak**  
(4. letnik študija Živilske tehnologije)

**Mentor: prof. Marjan Šimčič**

**Ljubljana, 2007**

UNIVERZA V LJUBLJANI  
BIOTEHNIŠKA FAKULTETA  
ŽIVILSKA TEHNOLOGIJA

## **NUTRIGENOMIKA (Nutrigenomics)\***

**Adriana BAN in Ana MIKLAVČIČ**  
(4. letnik študija Živilske tehnologije)

**Ljubljana, 2006**

UNIVERZA V LJUBLJANI  
BIOTEHNIŠKA FAKULTETA  
ŽIVILSKA TEHNOLOGIJA

## **Nutrigenomika**

**Andrej Zajšek,  
Maja Šikić,  
Mirjan Švagelj**

**Ljubljana, 2005**





# NUTRIGENOMIKA

- Hiter razvoj v razumevanju človeškega genoma je odprl nove poti raziskovanja interakcij med prehrano, ekspresijo genov, genetskimi variabilnostmi, zdravjem in boleznimi.



## Definicija



- Nutrigenomika je znanost, ki povezuje naravo genomike, traskriptomike, proteomike in metabolike s prehrano in se ukvarja z razumevanjem odnosa med prehrano in zdravjem.

# KAM ?!

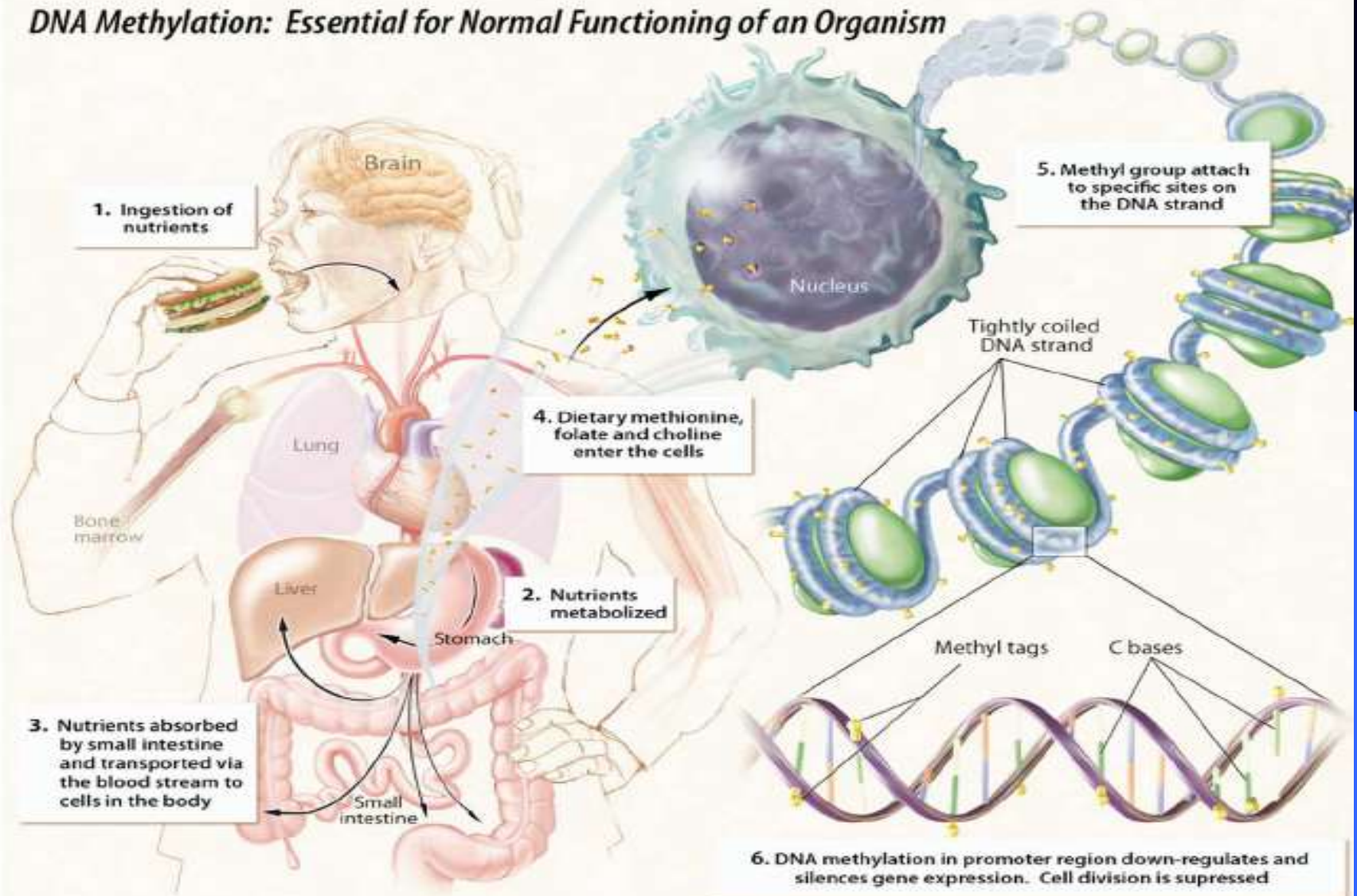
**Skupnostna prehrana**  
(Prehranjevanje po skupinah)



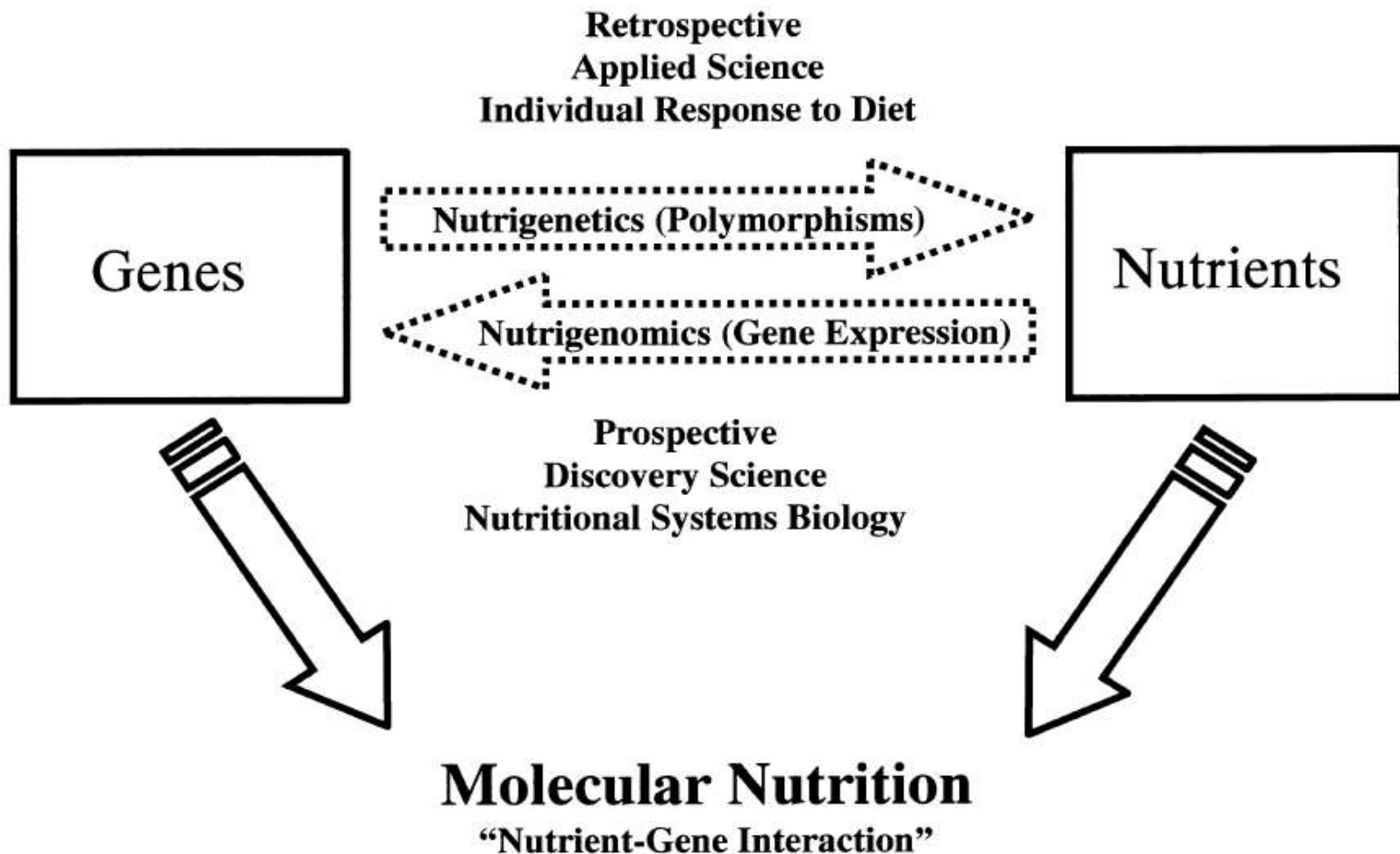


# VPLIV HRANILA NA GENOM

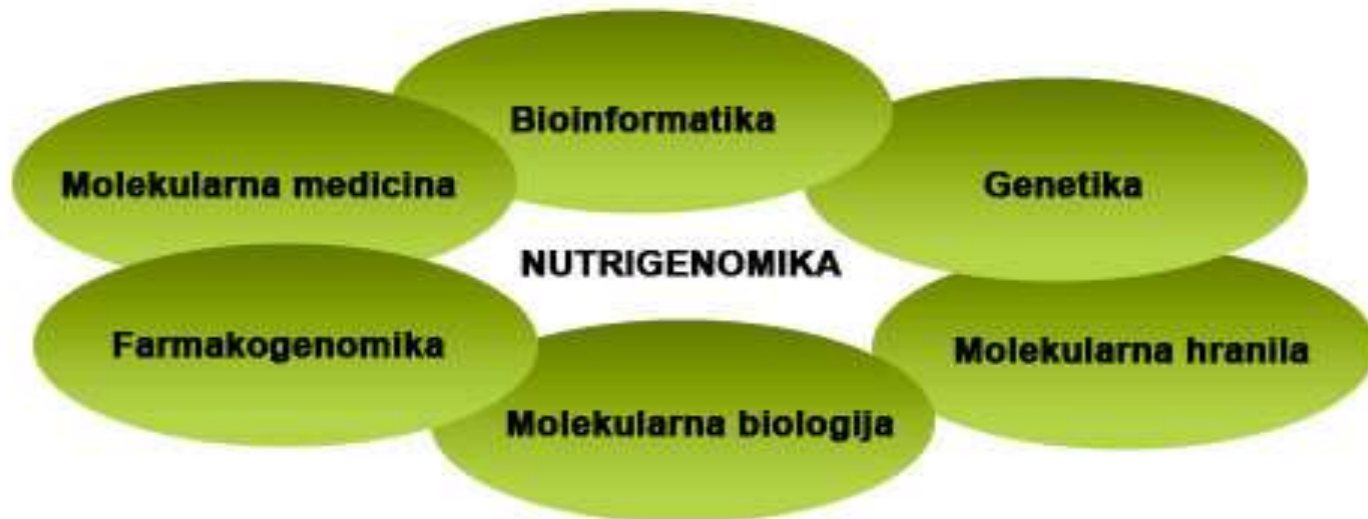
## DNA Methylation: Essential for Normal Functioning of an Organism



# NUTRIGENOMIKA IN NUTRIGENETIKA?



# POVEZAVA NUTRIGENOMIKE Z OSTALIMI ZNANSTVENIMI DISCIPLINAMI







NuGO

- Rowett
- Un Oslo
- Un Lund
- DiFE
- Un Krakow
- Un Reading
- Un Maastricht
- Un Wageningen
- Un Munich
- Un Florence
- Inserm Marseille
- Un Balearic Illes
- Un Cork
- Trinity
- Un Ulster
- EBI
- IFR
- TNO
- Rism
- Rikilt
- Un Newcastle

# M S SNP

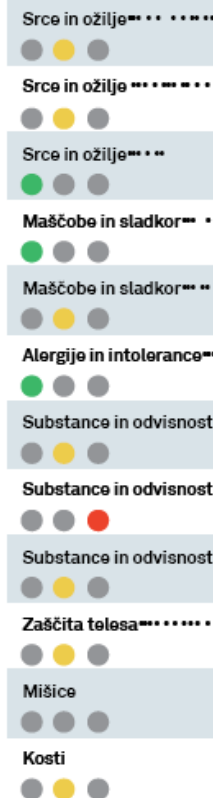
12

Gen <sup>1</sup>	Polimorfizam <sup>2</sup>	Različica <sup>3</sup>	Vaš genotip <sup>4</sup>	Vpliv <sup>5</sup>
CBG	LG-1	C/T	TT	● ● ●
MTHFR	LG-2	C/T	TC	● ● ●
MTHFR	LG-3	A/C	AA	● ● ●
MTRR	LG-4	A/G	AA	● ● ●
CDKN2	LG-5	G/G	GC	● ● ●
9p21	LG-6	A/G	GA	● ● ●
9p21	LG-7	A/G	GA	● ● ●
9p21	LG-74	A/G	GA	● ● ●
PON1	LG-8	A/G	AA	● ● ●
ACE	LG-9	I/D	II	● ● ●
AGT	LG-10	C/T	TT	● ● ●
IL6	LG-11	G/C	GG	● ● ●
PPARG	LG-12	G/G	GC	● ● ●
APOB	LG-13	C/T	TC	● ● ●
APOA5	LG-14	A/G	AA	● ● ●
APOC3	LG-16	C/T	CC	● ● ●
APOE	LG-16	C/T	TT	● ● ●
APOE	LG-17	C/T	CC	● ● ●
CETP	LG-18	T/C	TC	● ● ●
LPL	LG-19	C/G	CC	● ● ●
FTO	LG-20	A/T	TA	● ● ●
PCSK1	LG-21	A/G	AA	● ● ●
NRXN3	LG-22	A/G	AA	● ● ●
MC4R	LG-23	T/C	TT	● ● ●
MC4R	LG-24	G/A	GG	● ● ●
GNB3	LG-25	C/T	CC	● ● ●
CDKN2A	LG-26	C/T	TT	● ● ●
CDKAL1	LG-27	A/G	AA	● ● ●
TCF7L2	LG-28	C/T	TC	● ● ●
MCM6	LG-29	C/T	CC	● ● ●
MCM6	LG-30	G/A	CC	● ● ●
ALDH2	LG-38	A/G	GG	● ● ●
ANKK1	LG-39	A/G	CC	● ● ●
ADH1B	LG-40	A/G	GG	● ● ●
SLC6A3	LG-41	T/C	CC	● ● ●
GABRA2	LG-42	A/G	GA	● ● ●
GABRA2	LG-43	A/T	TA	● ● ●
GABRA2	LG-44	A/T	TA	● ● ●

CYP1A2	LG-45	A/C	CC	● ● ●
CHRNA3	LG-46	C/T	TC	● ● ●
CHRNA5	LG-47	A/G	GA	● ● ●
SOD2	LG-48	C/T	TT	● ● ●
GSTP1	LG-50	A/G	GA	● ● ●
EPHX1	LG-52	C/A	GA	● ● ●
EPHX1	LG-53	C/T	CC	● ● ●
NQO1	LG-54	C/T	CC	● ● ●
GPX1	LG-55	C/T	CC	● ● ●
MMP1	LG-56	+G	GG	● ● ●
ACTN3	LG-58	D/T	TC	● ● ●
VEGF	LG-60	G/C	GC	● ● ●
AMPD1	LG-61	G/A	GA	● ● ●
PPARGC1A	LG-62	G/A	GA	● ● ●
VDR	LG-63	T/C	CC	● ● ●
VDR	LG-64	T/C	TT	● ● ●
VDR	LG-65	A/G	GG	● ● ●
COL1A1	LG-66	G/T	GG	● ● ●
IL6	LG-75	G/C	GG	● ● ●
AKAP11	LG-67	T/C	CC	● ● ●
TNFRSF11B	LG-68	G/C	CC	● ● ●
TNFRSF11B	LG-69	T/A	AA	● ● ●
ESR1	LG-70	A/G	GA	● ● ●
GPR177	LG-71	C/T	GA	● ● ●
GPR177	LG-72	G/A	GA	● ● ●
FLI42280	LG-73	G/C	GG	● ● ●

## Povzetek Nutrigenomskega vodnika LifeGenetic

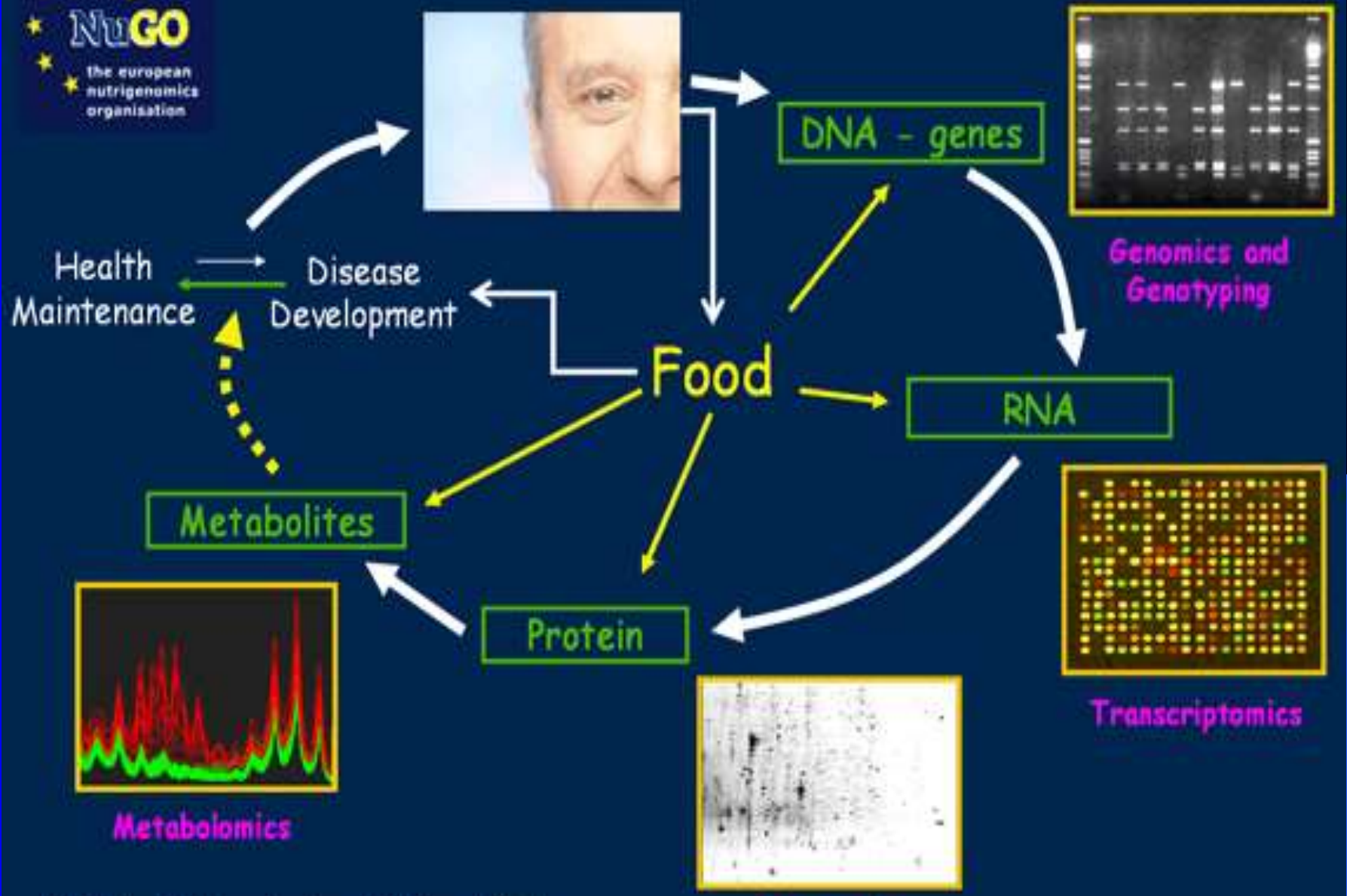
Marjan Simčič / datum: 30.05.2010



Sklop LifeGenetics	Akojski dejavniki	Dejavniki tveganja
<b>Srce in ožilje</b> (homocistein) ●●●●●●●●	vitamin B6, vitamin B12, folna kislina, antioksidanti	kajenje
<b>Srce in ožilje</b> (regija 9p21) ●●●●●●●●	gibanje, antioksidanti, omega-3 maščobne kisline	kajenje, uživanje alkohola, visokokalorična hrana
<b>Srce in ožilje</b> (sol) ●●●●●●●●	gibanje, nekatera zelišča	sol
<b>Maščobe in sladkor</b> (maščobe) ●●●●●●●●	nasičene maščobne kisline, omega-3 maščobne kisline, fizična aktivnost	nasičene maščobne kisline, holesterol, alkohol
<b>Maščobe in sladkor</b> (glukoza) ●●●●●●●●	nizkokalorična hrana, z majhnim glikemičnim indeksom, gibanje, omega-3	povišan ITM
<b>Alergije in intoleranca</b> (laktoza) ●●●●●●●●		mlečni izdelki (z laktozo)
<b>Substance in odvisnost</b> (alkohol) ●●●●●●●●		alkohol
<b>Substance in odvisnost</b> (kofein) ●●●●●●●●		kofein
<b>Substance in odvisnost</b> (nikotin) ●●●●●●●●		kajenje
<b>Zaščita telesa</b> (razstrupljevanje) ●●●●●●●●	brokoli, cvetača, zelje, antioksidanti (vitamini A, C, E), koencim Q10, selen	kajenje, pesticidi, ostala fito sredstva
<b>Mišice</b> ●●●●●●●●	aerobna vadba (kolesarjenje, ipd.), anaerobna vadba (fitnes, ipd.)	
<b>Kosti</b> ●●●●●●●●	kalcij, vitamin D, oligofruktoza, inulin, gibanje, izpostavljenost soncu	kajenje

- Analizirani geni v sklopu LifeGenetics so se v določenih raziskavah izkazali kot potencialno problematični, zato se za ljudi s tovrstnimi geni priporočajo posebni ukrepi.
- Analizirani geni v sklopu LifeGenetics so se v določenih raziskavah izkazali kot potencialno delno problematični, zato se za ljudi s tovrstnimi geni priporočajo posebni ukrepi.
- Analizirani geni v sklopu LifeGenetics so se v raziskavah izkazali kot ugodni, zato za ljudi s tovrstnimi geni veljajo splošna priporočila









With the kind permission of Dr Ruan Elliott

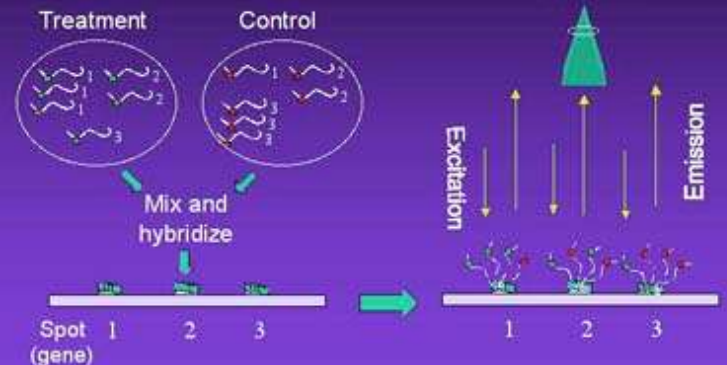
Proteomics

# Tehnologija - Mikroraster/DNA-chips

Two color hybridization on a yeast array with two differing samples of genomic DNA.

	Test	Ref.
	High	Low
	Low	High
	High	High
	Low	Low

Relative Abundance Detection



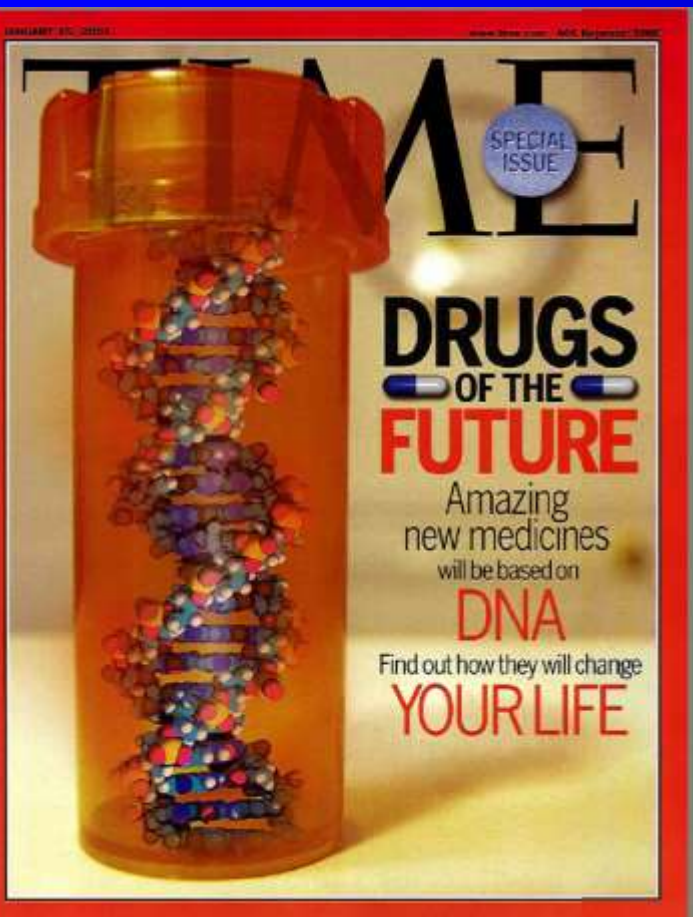
# Kaj so mikromreže?

- so fragmenti DNK vezani na nosilec (steklo, silikon, membranski filtri)
- fragmenti so urejeni kot goste mreže točk z natančno določenim položajem na nosilcu
- pritrjen DNK fragment je sonda
- v enem DNK mikročipu se lahko uporabi več tisoč sond
- pritrjeni DNK fragmenti so sposobni hibridizacije z fluorescentno označeno mRNA
- jakost izraženega gena je sorazmerna z jakostjo fluorescentnega signala, ki ga izmeri detektor, na točno določeni točki na nosilcu

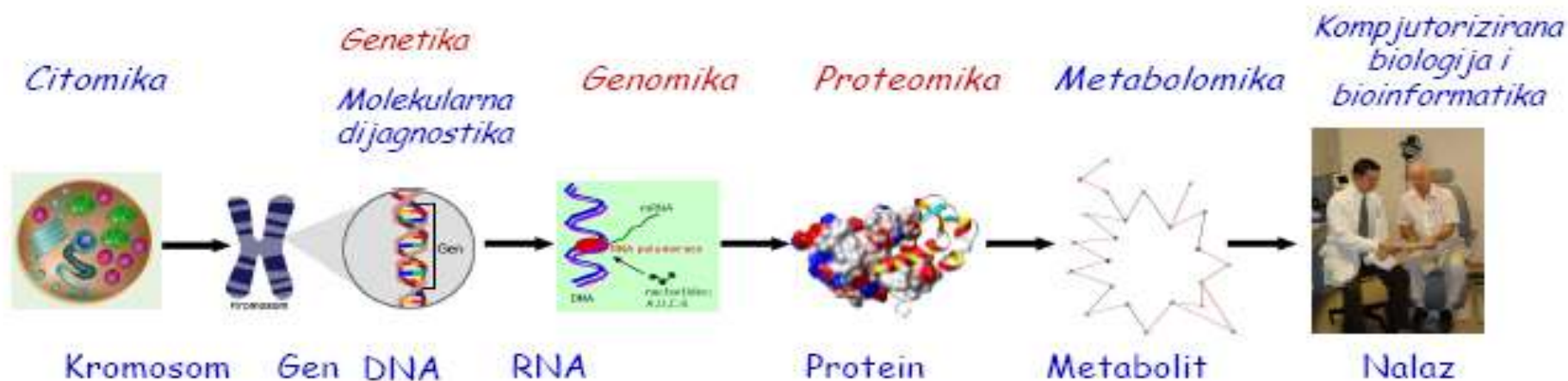




# Avtomatiziran sistem analize



# Profili laboratorijskih biljega



Informacija —

Funkcija —

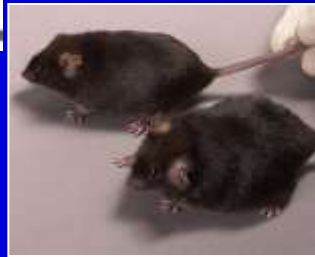
Zdravlje

# Sistemska biologija – Etika ?

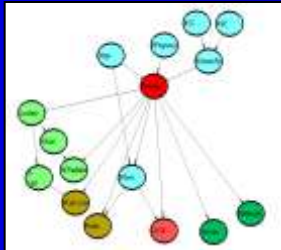
**genetics**



Biological question  
& model

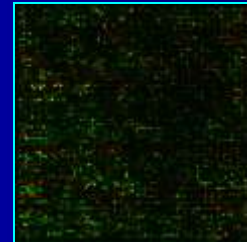


Mathematical  
models



**sequence  
analysis**

High-throughput  
technology



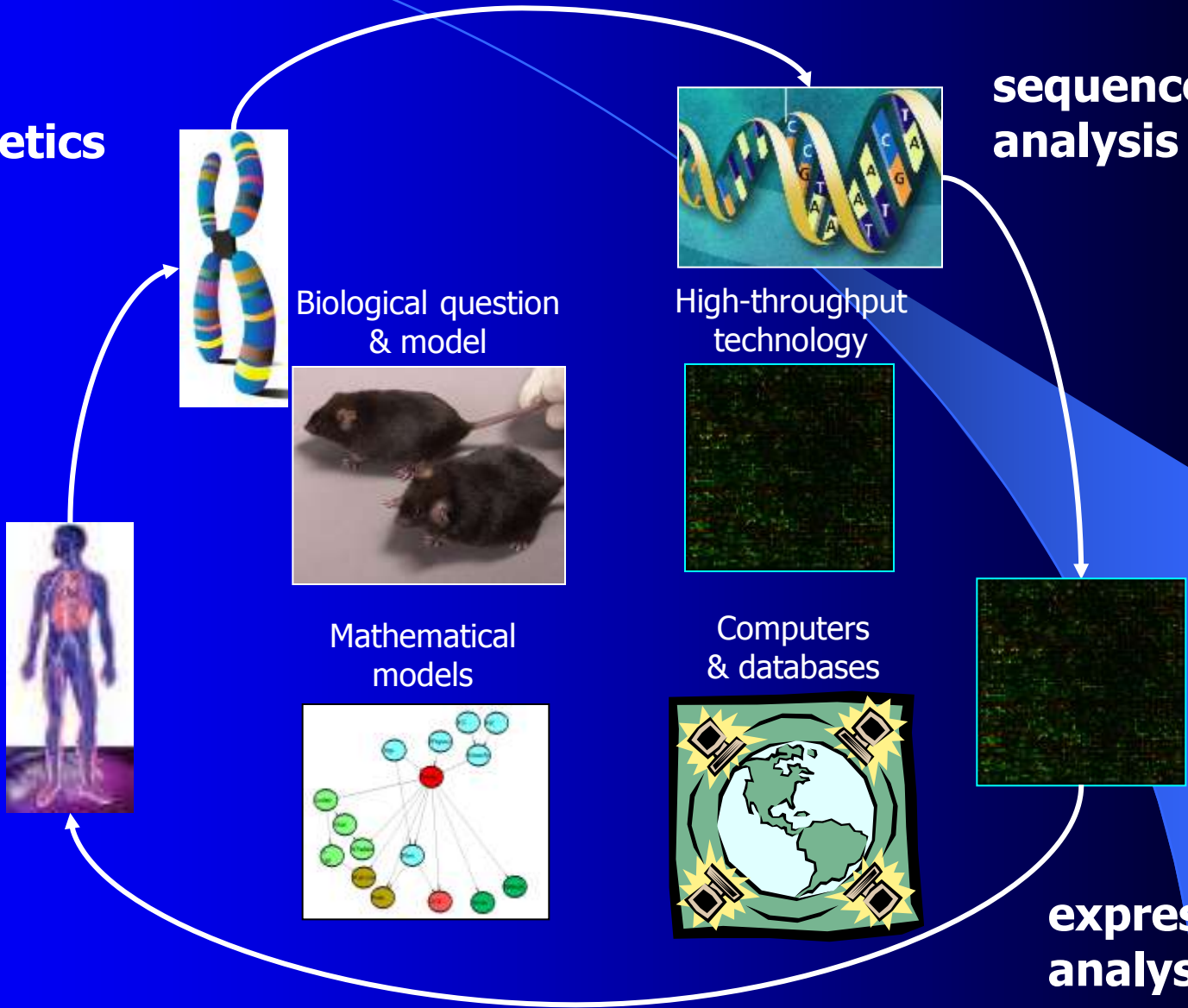
Computers  
& databases



**expression  
analysis**

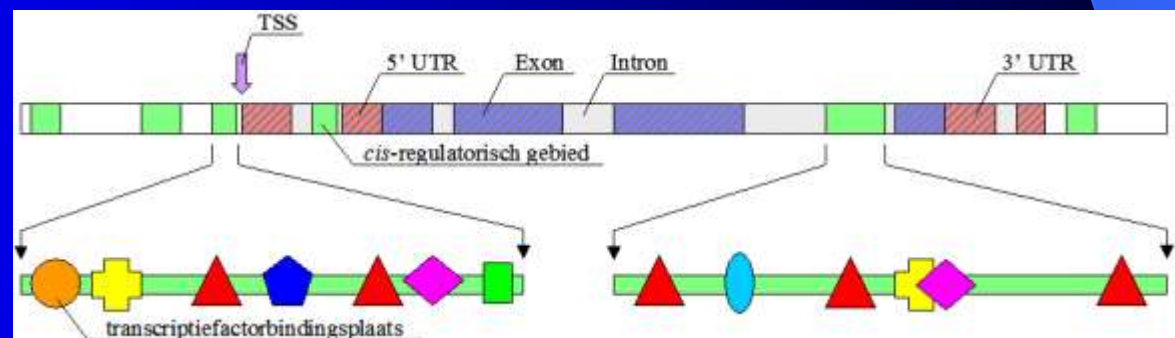
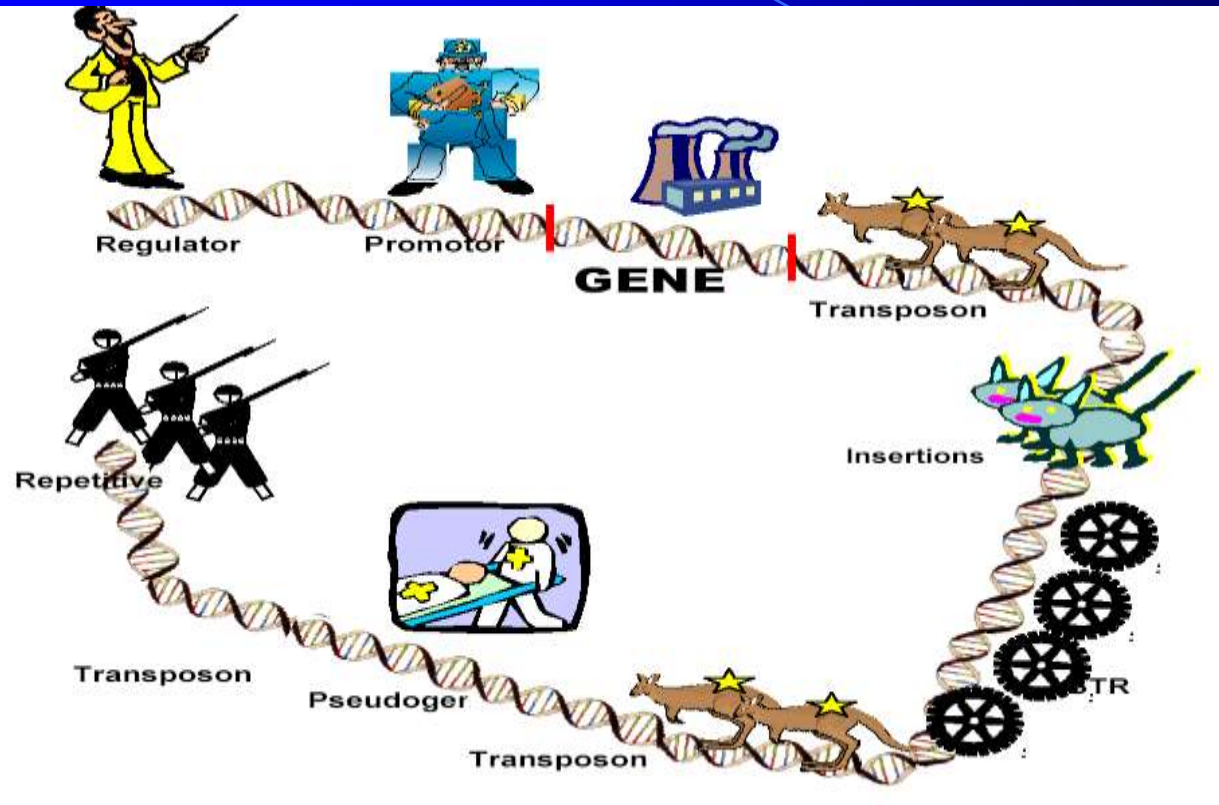


**biostatistics**





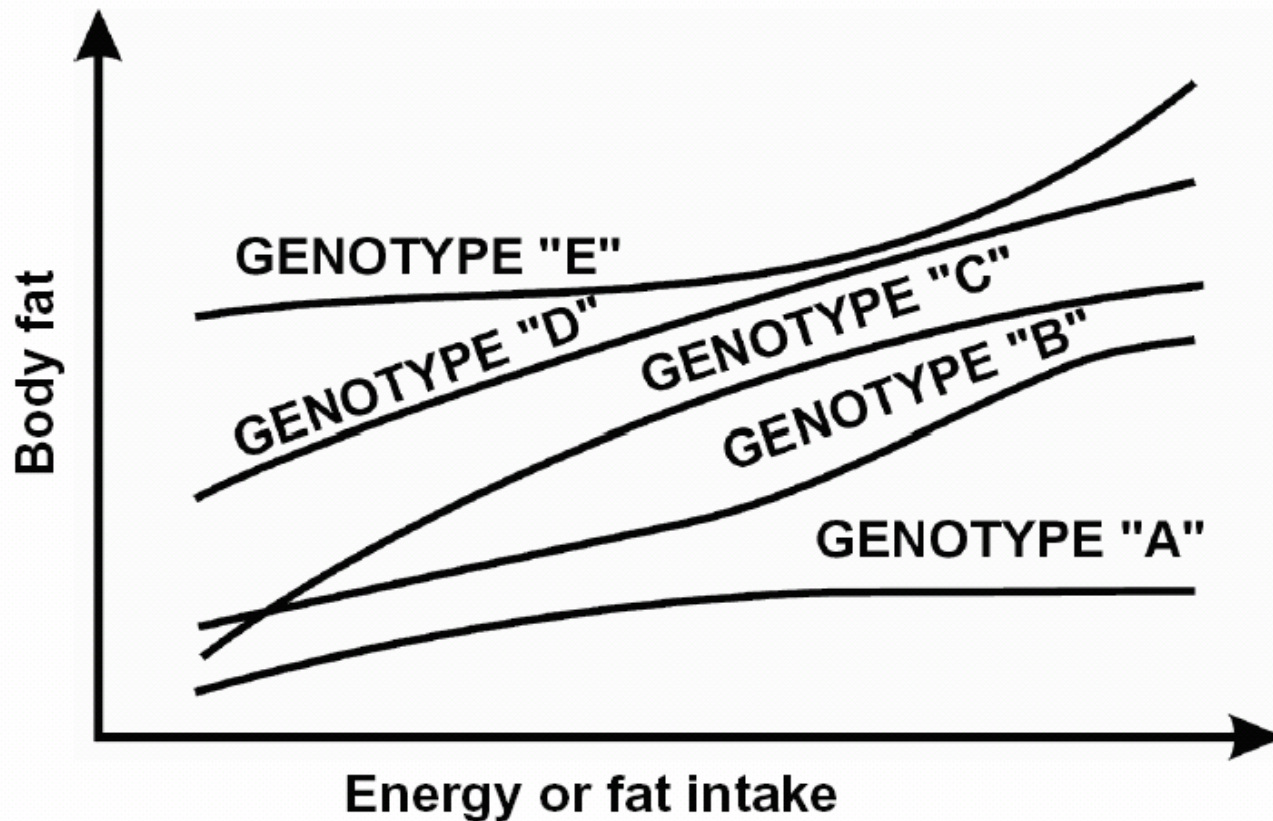
# Detekcija sistemov regulacije





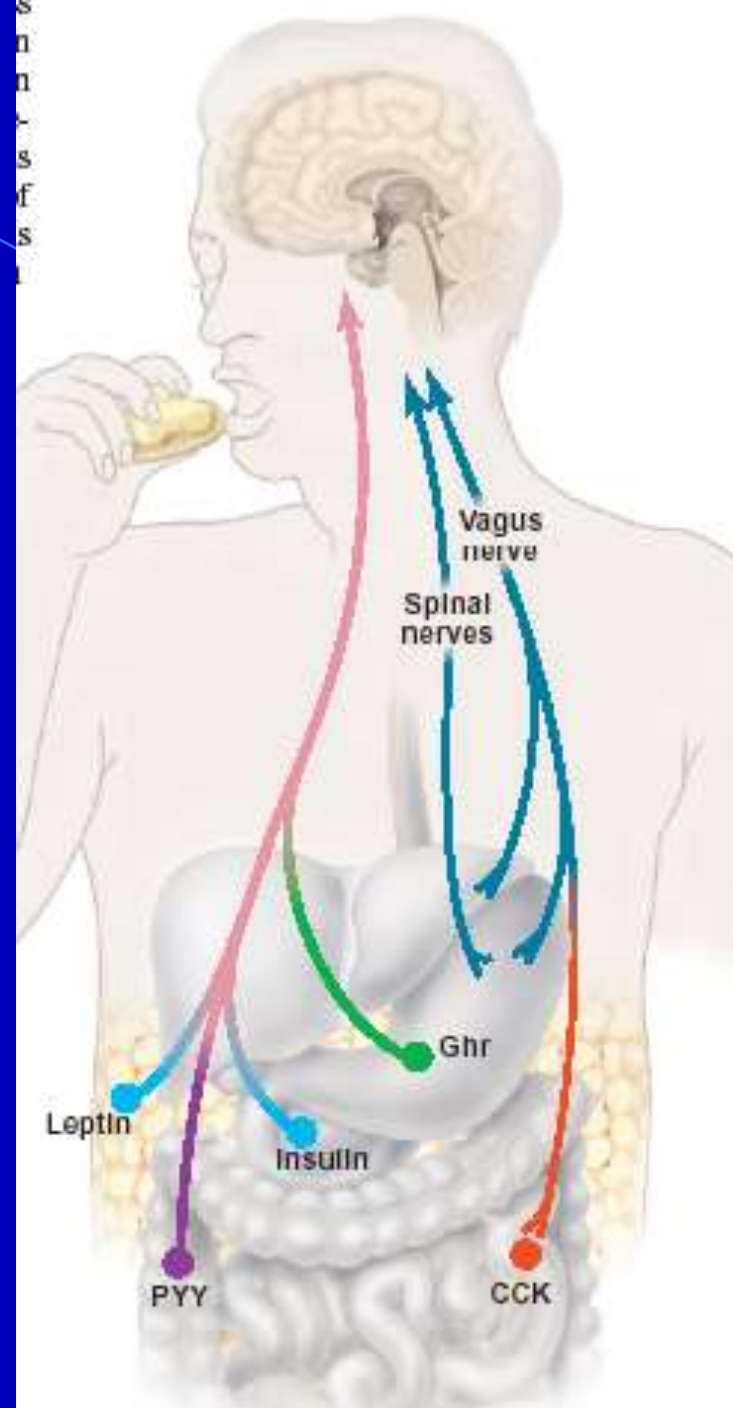
# Vpliv genotipa in okolja na nalaganje maščob v telesu

$$\text{Body Fat} = G + E + (G \times E)$$





# Regulacija apetita



VZEMIMO SI ČAS (2 uri in pol na dan za hrano).

Naj bo prehranjevanje obred.



# Kakovost v prehranski verigi

Sedanjest

Bodočnost ?







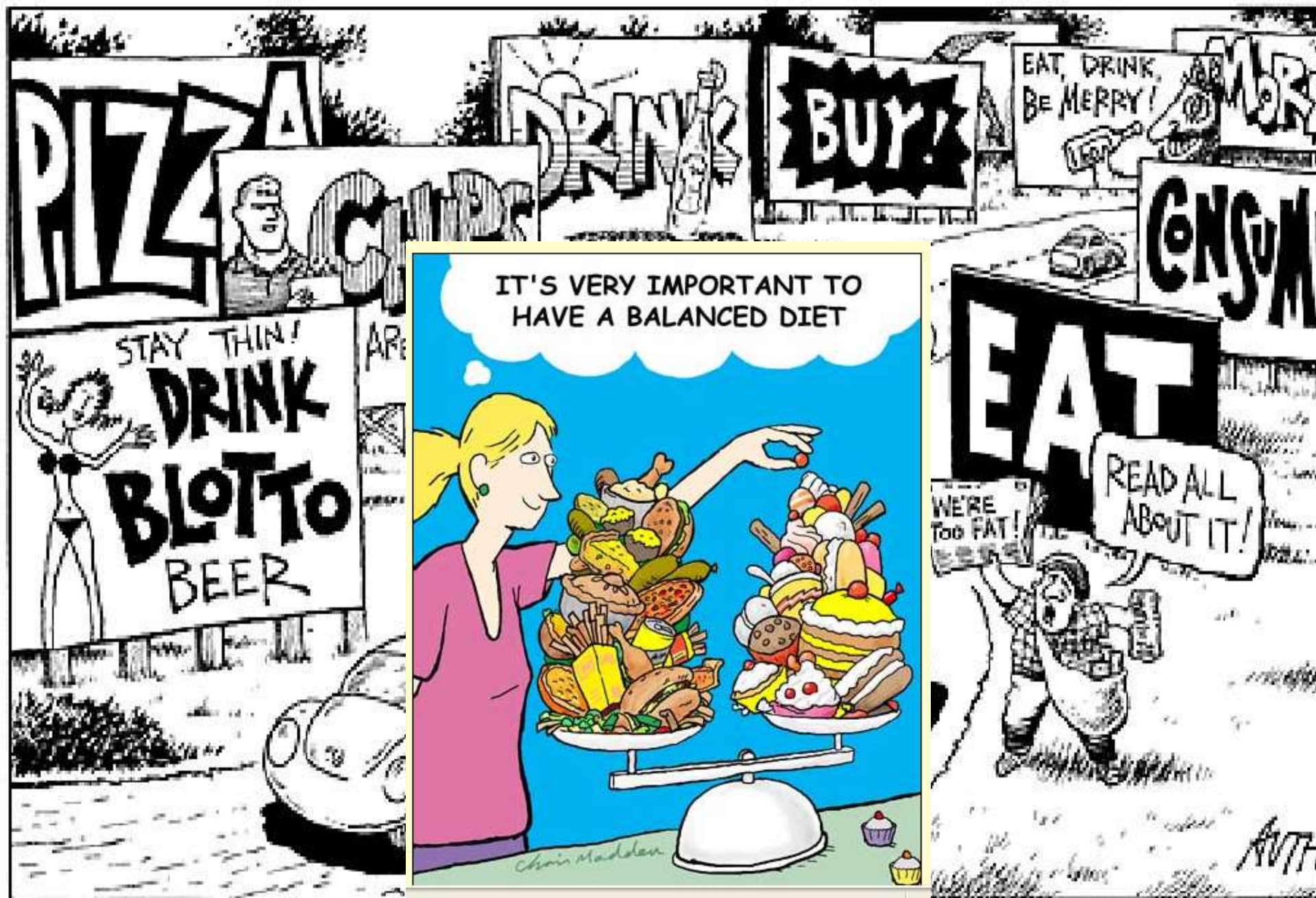
Kar je nekomu hrana, je za drugega  
lahko strup!

Lukrecij



Ne bojte se hrane





\$11 BILLION IS SPENT YEARLY ADVERTISING CONVENIENCE FOODS, SNACKS, AND ALCOHOLIC BEVERAGES.





# THE DNA DIET

HOME

THE DNA DIET ®

QUESTIONNAIRE

CAROLYN KATZIN

DNA WEIGHT LOSS  
SYSTEM

HEALTHY CHECK UPS

DNA FOODS

GENES TESTED

PERSONALIZED PLAN

CONTACT US

ORDER NOW



## THE DNA DIET

[Click Here to Order Today!](#)

### Welcome to Carolyn Katzin's The DNA Diet®

Who isn't fascinated about themselves? This non-invasive test allows you to have a first peek at one of the most valuable tools in your personal medical toolbox. Carolyn Katzin has extensive experience in the field of nutrigenomics. She has used knowledge gained from this to expand on her proven weight loss program providing lasting success for hundreds of clients. They lose weight in a way that is different than any other program because it is so personalized and relevant.

Carolyn also helps explain the implications of your Genome Wide Association results - which genes are "actionable" and how to interpret the level of accuracy of your test results." A telephone consultation provides additional value to your results and allows you to learn more about what they mean for you.

Answer this **QUESTIONNAIRE** to identify your own DNA Diet group. The results of this questionnaire is matched with the genetic test results and used to provide your DNA diet. The personalized nutritional advice includes a genetic test, questionnaires and a nutrition consultation with Carolyn Katzin, founder of

## The 27 genes in the profile currently include:

- **APOC3, CETP, LIPC, LPL and NOS3** - involved in lipid metabolism
- **MTHFR, MS-MTRR, MTR and CBS** - B vitamin genes involved in maintenance and repair especially of heart and nervous systems
- **SOD2, SOD3, EPHX1** - antioxidant genes
- **IL-6, TNF alpha** - markers of inflammation
- **ACE, PPAR gamma-2 and VDR** - involved in glucose and insulin regulation
- **VDR, COL1A1** - involved in bone and structural health
- **GSTM1, GSTT1, GSTP1** - detoxification genes
- **ADH1B, ADH1C, CYP1A1, CYP1A2, LIPC** - important in liver health
- **AGT, NOS3, PON1** - blood pressure and blood vessel health
- **ALDH2** - important in alcohol metabolism

A simple mouth (buccal) swab test is all you need. No blood test required.

The laboratory analysis and personalized diet report preparation takes 4-6 weeks. Once you receive your report you have a diet consultation (in person or over the phone). For those who wish to lose weight we offer a six week program with proven success of loss of fat around the waist.

Click [HERE](#) to order now from our **Personalized Nutrition Store** or by calling toll free **1-866-471-0529**

**Take action today - learn how your body likes to eat healthfully!**

# NUTRITIONAL GENETICS

## The DNA Diet ©

### Personalized nutritional and lifestyle recommendations

Optimize the health of your skin, bones, heart and mind by personalizing your diet and supplement intake. Genetic testing, combined with a lifestyle assessment, provide you with a scientifically based, personal blueprint for enhancing your health.

Testing examines your personal variations in 19 genes that scientists have shown play major roles in your body's heart and bone health, detoxification and antioxidant capacity, insulin sensitivity and tissue repair. Your DNA test results, combined with information from a lifestyle questionnaire, produces personalized, realistic steps you can take to improve and maintain your good health. Benefits you can expect include:

- Easier weight control by ensuring that you are not craving nutrients missing from your diet
- Optimized health and durability of your skin, hair and bones
- Reducing your susceptibility to the big three diseases – heart disease, cancer and diabetes – by harmonizing your diet and lifestyle with your genome

Recommendations are based on the unique combination of your genetic makeup and include customized dietary and nutritional supplementation programs. Includes a report containing:

- Your genetic profile for nineteen genes important to your individual nutritional status
- Specific nutritional supplement advice based on your genetic makeup
- Personal diet and lifestyle advice for each of the genes tested
- A guide to vitamins and minerals, and how to include them in your diet

**Price: \$595** (includes test and phone consultation to provide specific diet recommendations based on your genetic profile and health history). Major credit cards accepted.  
To schedule, call: 310-315-7900.

### *COMMONLY ASKED QUESTIONS*

#### *WHICH GENES ARE TESTED?*

Genes currently tested include:

- APOC3, CETP, LPL and eNOS (involved in cholesterol and lipid metabolism)
- MTHFR (at two loci); MS-MTRR and CBS (involved in B vitamin metabolism and methyl donor efficiency. Alterations may result in elevated homocysteine.
- MnSOD and SOD3 (involved in antioxidant metabolism)
- IL-6 (involved in inflammation, heart health and bone health)
- TNFalpha and IL6 (involved in inflammation)
- ACE and PPAR gamma 2 (involved in insulin sensitivity)
- VDR, COL1A1, IL6, TNF-alpha and PPAR-gamma (involved in bone health)



Shop by Category

[Books and Literature](#)

[Carolyn Katzin's Services](#)

[Carolyn Katzin's The DNA Diet](#)

[Health and Wellness](#)

[Consulting Services](#)

[Home](#) > Carolyn Katzin's The DNA Diet

## Carolyn Katzin's The DNA Diet

Nutritional genetic testing, detailed explanation of results including practical applications integrating with other health information.

Displaying products 1 - 4 of 4 results

Show:  Sort:



### Carolyn Katzin's The DNA Diet

Price: \$625.00

Quantity:

[Add to Cart](#) [More Info](#)

The ultimate in personalized and proactive diet recommendations



### Carolyn Katzin's The DNA Diet Weight Management System

Price: \$1,400.00

Quantity:

[Add to Cart](#) [More Info](#)

Carolyn Katzin's The DNA Diet including Rapid Results Diet six week program

DNA FOODS

GENES TESTED

PERSONALIZED PLAN

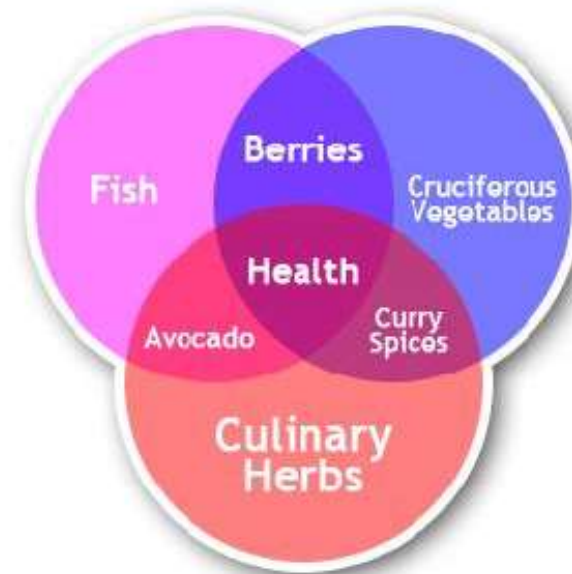
CONTACT US

ORDER NOW



# DNA Diet Foods

©2005 Carolyn Katzin  
[www.thednadiet.com](http://www.thednadiet.com)





Sciona

Click on the individual logos to visit our Fitness and Nutrition product websites



mycellf  
DNA FITNESS



Identify your inherited genetic variations and understand how they influence your Health & Well-being.

Recommendations to modify and improve your physical training, diet & lifestyle choices.

Use the science of personal genetics to optimize athletic performance and overall health & wellness.



mycellf™  
the science of you™

Understand how your genes impact your Diet & Lifestyle.

Identify your own unique genetic variations.

Personalized dietary and lifestyle recommendations which enable you to take control of your health & well-being.







[nutrigenomika.info](http://nutrigenomika.info)

[Site map](#)

[Svetovanje](#)

[Pogosta vprašanja](#)

[Kdo smo](#)

[Predavanja](#)

[Wellness za vse življenje](#)

[Naše poslanstvo](#)

[Kontaktne informacije](#)

[Prehrana po krvnih skupinah po svetu](#)

[Nutrigenomics](#)

[Individualizirana dopolnila k prehrani](#)

[Zelišča](#)

[PODATKI O ŽIVILIH IN RECEPTI](#)

# NUTRIGENOMIKA

## Nutrigenomika: znanost o individualizirani prehrani\*

Dandanes se v poplavi različnih informacij vse preveč ljudi v skrbi za svoje zdravje zanaša na priporočila, ki so morda za nekoga drugega koristna, zanje pa povsem neustrezna in celo škodljiva. Kako torej jesti in živeti, da bomo zdravi, srečni, zadovoljni, in da se bomo dobro počutili v svoji koži?

[Nataša Klarič](#) o prehrani po krvnih skupinah v oddaji TV SLO 1 "DOBRO JUTRO". Za dostop do videa kliknite [tukaj](#)

Urednica e-glasila Nutrigenomika Info ter svetovalka za individualizirano prehrano s certifikacijo za prehrano po krvnih skupinah je za revijo **Misteriji v rubriki Pot do zdravja** opisala svoj "križev pot" in kako si je s prehrano po krvnih skupinah in genotipu povrnila zdravje, dobro



[nutrigenomika.info](http://nutrigenomika.info)

[Site map](#)

[Svetovanje](#)

[Prva stran](#)

[Pogosta vprašanja](#)

[Predavanja](#)

[Wellness za vse življenje](#)

[Naše poslanstvo](#)

[Kontaktne informacije](#)

[Prehrana po krvnih skupinah po svetu](#)

[Nutrigenomics](#)

[Individualizirani prehranski dodatki](#)

[Zelišča](#)

[PODATKI O ŽIVILIH IN RECEPTI](#)

# Nutrigenomika Info Team



Nataša Klarič, FIFHI  
Svetovalka za nutrigenomiko in prehrano po krvnih skupinah

Urednica [www.nutrigenomika.info](http://www.nutrigenomika.info) in e-glasila Nutrigenomika Info

S prehrano po krvnih skupinah in individualizirano prehrano se ukvarja od leta 2001, v letu 2007 pa je pridobila tudi BTD certifikat za prehrano po krvnih skupinah po programu izobraževanja in certifikacije, ki ga v sodelovanju z Dr. Petrom D'Adamom izvaja The Institute for Human Individuality v ZDA.

Frenk Pavlič  
Osebni trener

GSM +386 (0)41 839 879  
e-pošta [fitness@nutrigenomika.info](mailto:fitness@nutrigenomika.info)



Osebni trener in svetovalac na področju prehrane in vadbe za optimalno zdravje, dobro počutje, idealno telesno težo, oblikovanje telesa in vrhunsko psiho-fizično pripravljenost. Pristop je holističen, individualiziran in temelji na dolgoročni strategiji ter programu za doseganje in vzdrževanje zastavljenih ciljev.

## Svetovanje poteka

v [svetovalnem studiu Nutrigenomika Info Team](#) v [Domžalah, na Ljubljanski c. 90](#)  
(parkiranje zadaj; vhod nasproti salona Lepa.si)

in v sodelovanju z zunanjimi sodelavci in partnerji

**samo po predhodnem dogovoru – za naročanje pokličite**



**GENEPLANET**  
PERSONAL GENETICS

[geneplanet.si](#) [MyGeneplanet](#) [Prijava](#) [Registracija](#)

izberite jezik



MyGeneplanet  
Prijavite se [tukaj](#).

ABC GENETIKE

ANALIZIRAJTE SVOJ DNK

NAŠE STORITVE

O GENEPLANETU

PREIZKUSITE  
DEMO

VIRTUALNA  
PREDSTAVITEV

[▶ Naše vrednote](#) [▶ Strokovni svet](#) [▶ Osebna izkaznica](#) [▶ Ekipa](#) [▶ Novosti](#)

## Ekipa



60% ekipe GenePlaneta ima nižjo genetsko tveganje od povprečja, da zbolijo za sladkorno boleznijo tipa 2.



Ženski del ekipe ima večinoma povprečno tveganje za razvoj prsnega raka.



Nekateri otroci, ki so bili kot dojenčki dojeni, imajo višji IQ kot ostali. Vsi člani GenePlaneta smo bili dojeni, vendar dve osebi nimata genetske variacije, ki jima poveča IQ zaradi dojenja.

## Vas zanima ...

- ... [kako poteka analiza?](#)
- ... [kakšne so prednosti Geneplaneta?](#)
- ... [kakšne so naše vrednote?](#)



› **Zdravila**

› **Posebnosti in talenti**

› **Predniki**

[Rasa](#)

[Geografija](#)

[Nazaj do Adama](#)

› **Lastnosti po kromosomih**

› **Primerjava**

[Bolezni](#)

[Zdravila](#)

[Posebnosti in talenti](#)

[Predniki](#)

## Bolezni po dovzetnosti

Bolezen	Zanesljivost	Vaše tveganje v primerjavi s populacijo [%]	Vaše osebno tveganje
<a href="#">Rak prostate</a>		+25,00%	
<a href="#">Celiakija</a>		+7,00%	
<a href="#">Bipolarna motnja</a>		+6,00%	
<a href="#">Hipertenzija</a>		-10,00%	
<a href="#">Sladkorna bolezen tipa 2</a>		-26,00%	
<a href="#">Revmatoidni artritis</a>		-30,00%	
<a href="#">Multipla skleroza</a>		-43,00%	
<a href="#">Sladkorna bolezen tipa 1</a>		-76,00%	
Bolezen	Zanesljivost	Vaše tveganje v primerjavi s populacijo [%]	Vaše osebno tveganje
<a href="#">Sindrom nemirnih nog</a>		+39,00%	
<a href="#">Kožna luskavica ali psoriaza</a>		+21,00%	
<a href="#">Pljučni rak</a>		-6,00%	

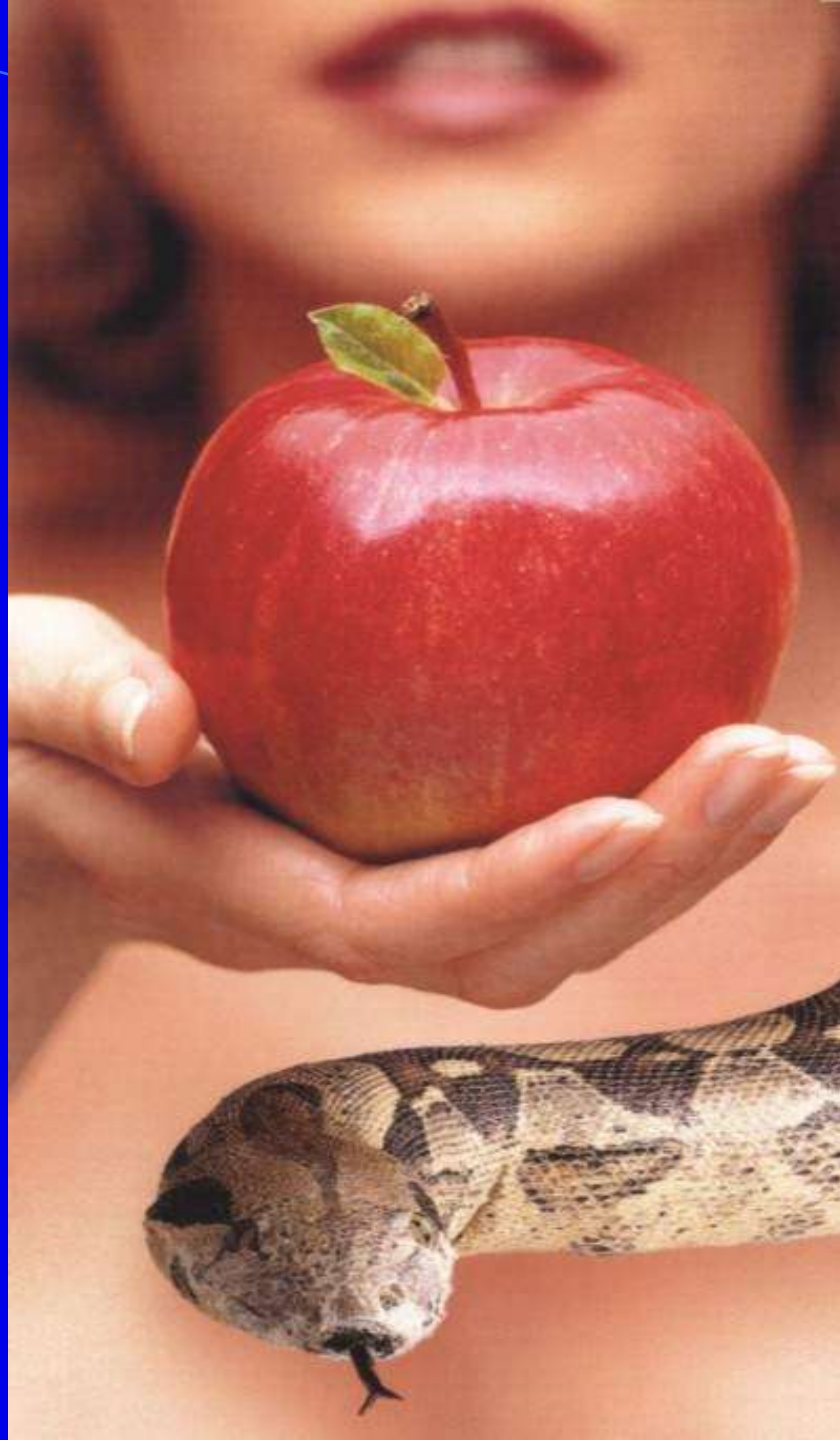


Želite spoznati vaše reakcije na določena zdravila?

STREAMING

0:00:08.347



















***Hvala za pozornost!***



# MyPyramid

STEPS TO A HEALTHIER YOU

MyPyramid.gov

